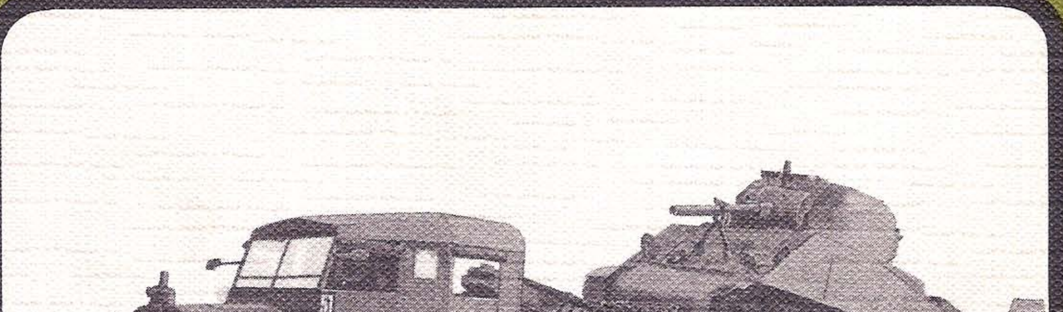
British Army Transport 1939-45

Part 1

BELLONA

Handbook No. 3



Tank Transporters   Recovery Vehicles   Machinery Trucks

Compiled by M.P.CONNIFORD

50p

BRITISH ARMY TRANSPORT 1939~45
Part 1 Tank Transporters, Recovery Vehicles, Machinery Trucks.
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INTRODUCTION

During the Second World War the majority of transport used by the British Army, excluding that commandeered from civilian sources or captured from the enemy, was manufactured in Great Britain, Canada, or the United States of America. This handbook deals with some of those vehicles but also includes items built in, or assembled from "knock-down kits" in Australia and elsewhere.

This handbook does not claim to cover all the tank transporters, recovery vehicles and machinery trucks used by the British Army between 1939 and 1945, but tries to deal with the main design types as well as a few of the specials. Many vehicles were modified by their users to suit local conditions or put to uses for which they were never intended, little information remains concerning these freak trucks and it would be quite impossible to include more than a few such vehicles in this book.

Before dealing with the individual items which make up this handbook, the various terms used should be understood.

Each type or group of vehicles is referred to by a combination of weight and wheel arrangement, for example 'Truck 3-ton 4 x 2'. Taking the latter part of the description first, '4 x 2', this means that the vehicle concerned has four wheels, but is driven by the rear two only. Similarly '4 x 4' means a four wheel vehicle driven by all four wheels, commonly known as 'four wheel drive' or f.w.d. This practice continues with the larger trucks also as follows: 6 x 4 a six wheeler driven by the rear four wheels, 6 x 6 again a six-wheeler but driven by all six wheels.

The first part of the description given in the example 'Truck 3-ton' also requires clarification. The weight referred to is the load (or tonnage) rating for the vehicle concerned and is the physical weight which it can safely carry. In addition to this weight, or payload as it is termed, the vehicle is designed so that it also carries the weight of the driver and driver's mate with full kit, plus standard vehicle tools and equipment, and full tanks of petrol, oil and water.

The number of driving wheels do not affect the load rating, thus a 4 x 2 or 4 x 4 truck of 3-ton capacity will carry the same quantity of supplies, and either a 3-ton 4 x 4 or a 3-ton 6 x 6 stores lorry can transport the same weight and stores.

Technical vehicles such as the machinery and workshop trucks dealt with in this handbook cannot carry payload in addition to technical equipment, however such vehicles are given tonnage ratings corresponding to the equivalent load carrier chassis on which the special bodies are installed.

Whilst dealing with weight, in some instances laden and unladen weights have been quoted for various vehicles, again these terms require some elaboration. Unladen weights are for the complete vehicle, chassis, cab and body, but excluding all of the following items: the weight of the fuel in tanks and spare petrol carriers; the weight of spare wheel and tyre; the weight of vehicle tools and chains; the weight of special equipment such as picks and shovels; and the weight of the driver and mate. Tank transporters are however in a different category, the term unladen including all the above items referring to the fact that no tank is being transported only.

Laden weights are for the complete vehicle with full rated payload fully equipped and ready for service including all the equipment and personnel weights omitted from the unladen weight. Finally, the load ratings are in long tons of 2240 pounds which is the standard practice for British and Canadian manufactured vehicles. Those manufactured in the United States have load ratings calculated in short tons of 2000 lbs.

It has not been possible to give exact dates of vehicles entering service as comprehensive records of this nature are not available, it is known however that all the vehicles referred to were in service during part of or all the war years, being "phased out" of service at varying times after the war, indeed in some instances only quite recently.

This handbook could not have been illustrated without the assistance of a large number of organisations and private individuals. The Imperial War Museum Photographic Library have been particularly helpful (reference numbers to all IWM prints are given to facilitate the ordering of prints by Readers). Albion Motors Ltd., Scammell Lorries Limited, Transport Equipment (Thornycroft) Limited and Shelvoke & Drewery have all been most helpful, as have the Royal Corps of Transport at Borden, the Royal Electrical and Mechanical Engineers at Arborfield, and the Royal Army Ordnance Corps Chilwell.

Sincere thanks are due to all those individuals, who, through contributions or advice have helped to make this work available to all enthusiasts; particular thanks to Peter Chamberlain, Alex Craig and Bart Vanderveen, for time expended and material loaned.

PART 2 - GUN TRACTORS, BRIDGING VEHICLES, AMBULANCES.

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TANK TRANSPORTERS

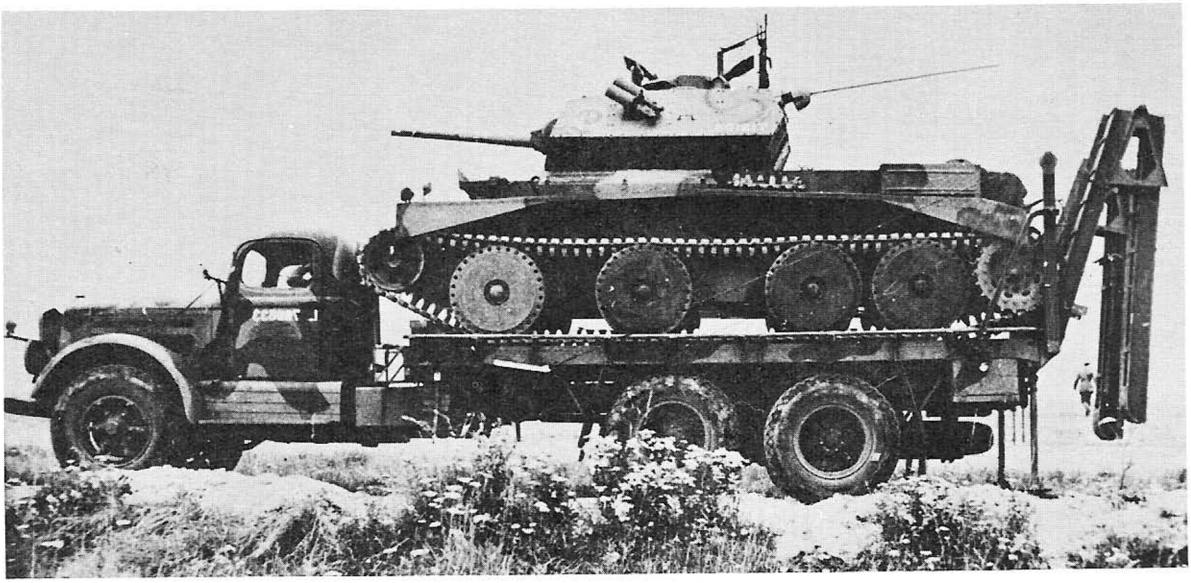
This section covers British and Imported Tank Transporters in three groups: rigid chassis lorries, tractors with semi-trailers, and tractors with trailers.

The rigid chassis vehicles are of the standard American commercial type, most of them originally ordered by the French government, which have been fitted with British built transporter bodies. The three versions dealt with differ in chassis components, dimensions and weight, but the basic design is similar.

Manoeuvrability was however limited with this type of vehicle, the turning circle varying between 82 and 88 feet. To a certain extent this problem was overcome with the use of the tractor and semi-tractor models. The turning circle of the Albion CX 24 being only 69 feet although the 30-ton version of the Scammell needed 79 feet to make this turn.

The question of vehicle utilisation became critical when large numbers of tracked vehicles had to be transported and the use of trailers towed by ballast laden tractors was one way of overcoming this situation. Having delivered its load the tractor returned to collect a second load leaving the first trailer at its destination to be unloaded. When the tractor returned towing the second trailer, it was able to leave this to be unloaded whilst it returned with the first trailer, now empty, to collect yet another load.

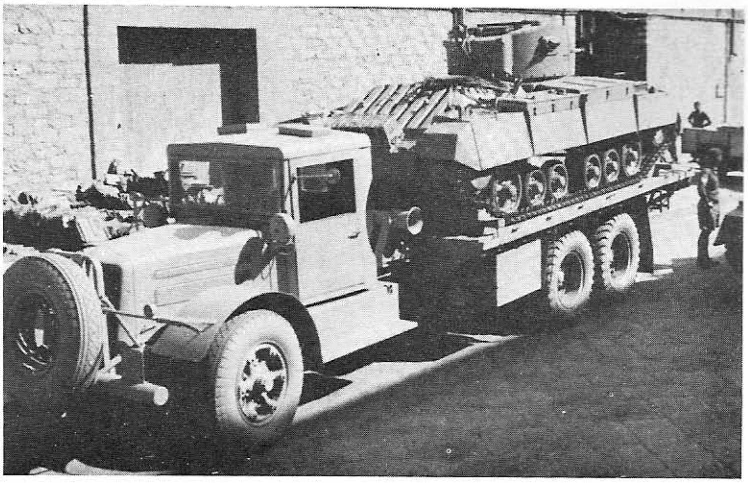
1



WHITE 920 18-ton TANK TRANSPORTER
Length: 29ft 10in 31ft 11in (Folding ramps).
Width: 10ft 3in.
Height: 7ft 10½in (Cab) 10ft 11½in (Folded ramps).
Weight: Unladen 11 tons 4 cwts gross.
Laden: 29 tons 14 cwts gross (18 ton tank).
These vehicles used a standard American commercial type chassis, originally ordered by the French Government which was fitted with British built transporter bodies, powered by a White 529 petrol engine.

When first introduced detachable folding ramps known as "Bees Knees" were fitted, operated by two hand winches. These were later replaced by built-up type loading ramps which were carried in sections on the floor of the lorry.

Hinged legs with elephants feet located at rear directly under ramp attachment points. Adjustable chocks being used to secure the tank position.



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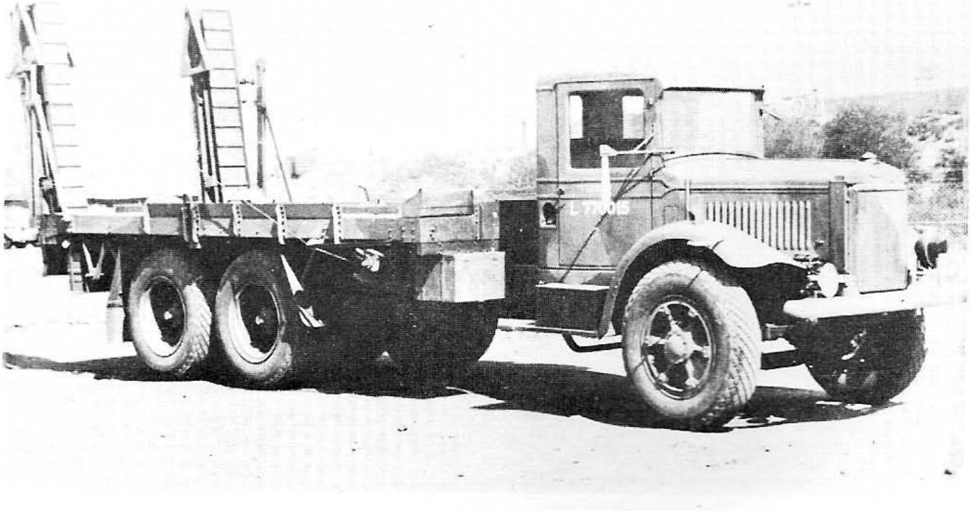
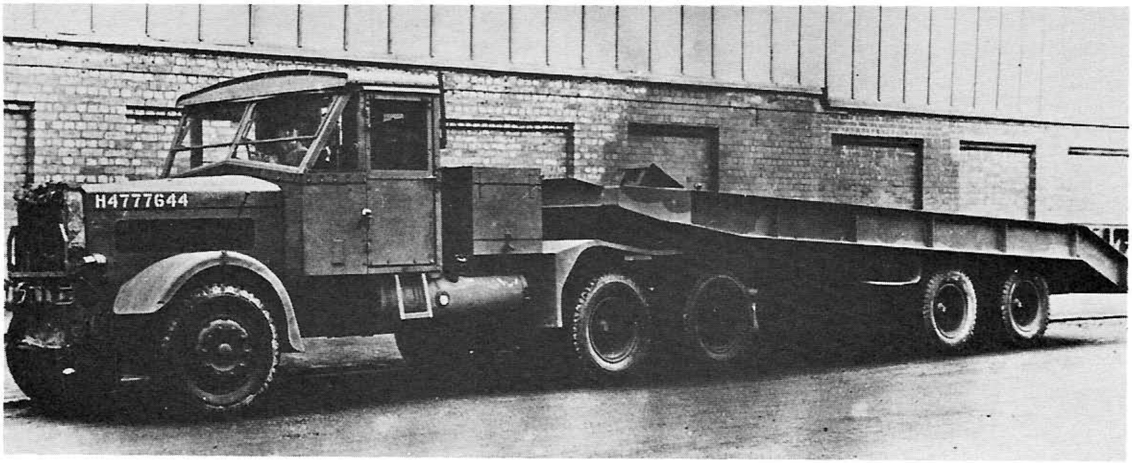
WHITE RUXTALL '922' 18-ton TANK TRANSPORTER
Length: 30ft 9½in.
Width: 9ft 9½in.
Height: 8ft 2½in.
Weight: Unladen: 12 tons 15¾ cwt gross.
Laden: 31 tons 1 cwt gross (18 ton tank)
Similar to the White '920' and Mack 'EXBX', this tank transporter was fitted with only the built-up type of ramp.
Photo: 2.

MACK 'EXBX' 18-ton TANK TRANSPORTER
Length: 29ft 5½in. 30ft 10½in (Folding ramps)
Width: 10ft 1in.
Height: 8ft 3in (Cab). 11ft 4in. (Folded ramps)
Weight: Unladen: 11 tons 1 cwt gross.
Laden: 29 tons 10 cwt gross (18 ton tank).
Similar in design to the White Ruxtall 922, dimensions as follows
Photo: 3: B. H. Vanderveen.

3





4

ALBION CX 24S 20 ton SEMI-TRAILER TANK TRANSPORTER
Length 43ft 9¾in (Tractor & Trailer with ramps raised). 27ft 6in (Semi-trailer only). 7ft 10in (Tractor). 9ft 5in (Semi-trailer). Height: 8ft 6in (Top of cab). 6ft 2in (Front block of semi-trailer) 4ft 6in (Top of raised ramps). Weight: Unladen: 15 tons 2¾ cwt gross. Laden: 34 tons 5½ cwt gross (Crusader).

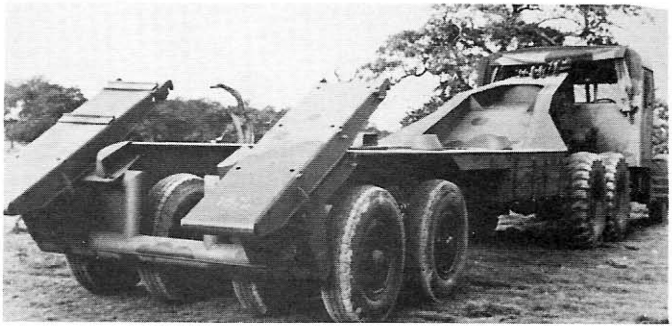
In production from August 1941 to August 1944 this tank transporter was used to carry tanks of up to 20 tons. The Albion tractor unit was fitted with an 8-ton power driven Scammel vertical spindle winch. An Albion 54.15 h.p. petrol engine, model EN 2488 was used to power this articulated unit. The semi-trailer ramps being of the triangulated type. When first introduced the 3-man cab had a vertical windscreen, but this was replaced by a more modern sloping screen as shown in the photographs.
(Photo 4: Albion Motors).

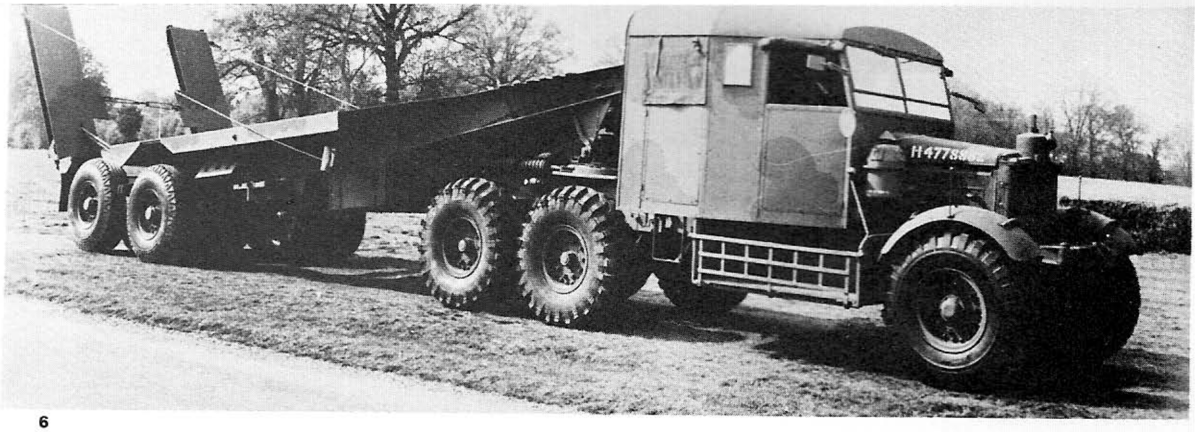
ALBION CX24S 15 ton SEMI-TRAILER TRANSPORTER CARRIAGE OF CABLE DRUMS.
A derated version of the Albion 20 ton tank transporter was used to carry large cable drums.

SCAMMELL 20 ton SEMI-TRAILER TANK TRANSPORTER
Length: 49ft 3in (Tractor & Trailer with ramps raised).
22ft 0in (Tractor only).
35ft 7in (Semi-trailer only).
Width: 8ft 7in (Tractor).
9ft 2in (Semi-trailer).
Height: 9ft 4in (Top of raised ramps).
9ft 5in (Top of Cab).
Weight: Unladen: 15 tons. 10 cwt gross.
Laden: 35 tons. 8cwt gross.

Designed to recover and transport tanks of up to 20 tons, such as the Crusader, this unit used the same tractor as the 30 ton version. It is however easily recognisable as the floor of the semitrailer is parallel to the ground.

5





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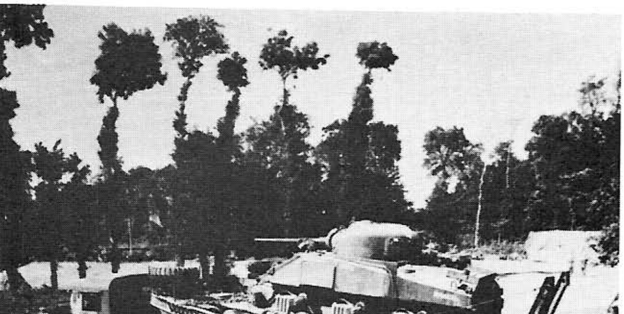
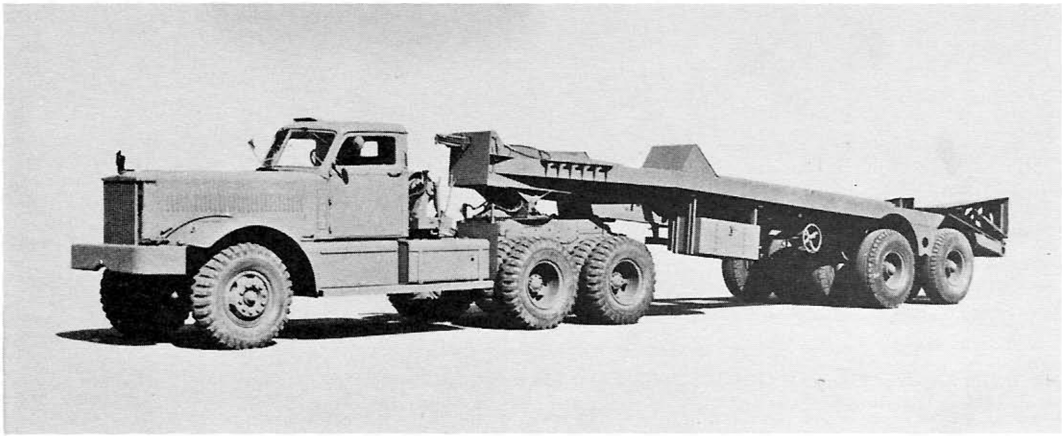


SCAMMELL 30 ton SEMI-RECOVERY TANK TRANSPORTER
Length: 49ft 8in (Tractor & Trailer with ramps raised).
22ft 0in (Tractor only).
36ft 6in (Semi-trailer only).
Width: 8ft 7in (Tractor).
9ft 5½in (Semi-trailer).
Height: 9ft 5in (Top of Cab).
10ft 11in (Top of raised ramps).
Weight: Unladen: 19 tons 18 cwt gross.
Laden: 49 tons 16 cwt gross (Matilda).

Produced to recover and transport tanks of up to 30 tons, this tractor and semi-trailer unit was used throughout World War II earning a great reputation for reliability, particularly in the Western Desert. The Scammell tractor, powered by a 6-cyl. Gardner engine with 6 forward and 1 reverse gears, had an enclosed steel cab large enough to accommodate 7 men. A 600ft long 13/16P dia. hawser operated through an 8-ton Scammell vertical spindle winch to facilitate the recovery of 'dead' tanks. The two ramps, shown in the carrying position in the photographs, being lowered by small hand winches to give a ramp angle of 18 degrees. Two hydraulic jacks are provided to support the rear of the semi-trailer during loading, being designed for use in wheel-changing and in detaching the semi-trailer from the tractor.
Photos: 6 and 7 Scammell Lorries.



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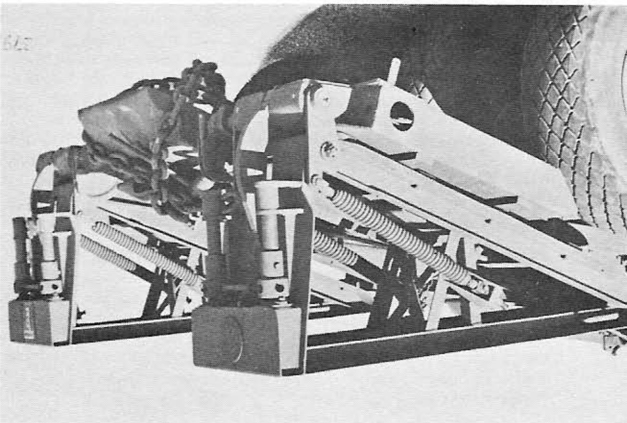
DIAMOND T 30 ton SEMI-TRAILER RECOVERY TANK TRANSPORTER
Length: 49ft 10in (Tractor & Trailer with ramps raised).
22ft 7in (Tractor only).
35ft 5in (Semi-trailer).
Width: 8ft 4in (Tractor).
9ft 8in (Semi-trailer).
Height: 8ft 3in (Top of cab).
8ft 0in (Front of Semi-trailer).
Weight: Unladen: 22 tons. 9 cwt gross.
Laden: 53 tons. 8 cwt gross (Sherman).

Used by British and Canadian tank transporter and recovery units, this articulated vehicle was formed by modifying a standard Model 980 Diamond T tractor removing the ballast body and replacing it with a semi-trailer turntable. Powered by a Hercules DFXE 6-cyl. diesel engine, with a 20-ton winch driven by a power take-off and having 250ft of 7/8in dia cable.

The semi-trailers were made by Shelvoke & Drewry, better known for the manufacture of municipal dustcarts; it is of interest that this company gained an award for the design of the spring-balanced ramp shown in photographs 9 and 10.

Photos: 8, 9 and 10 Shelvoke & Drewry.



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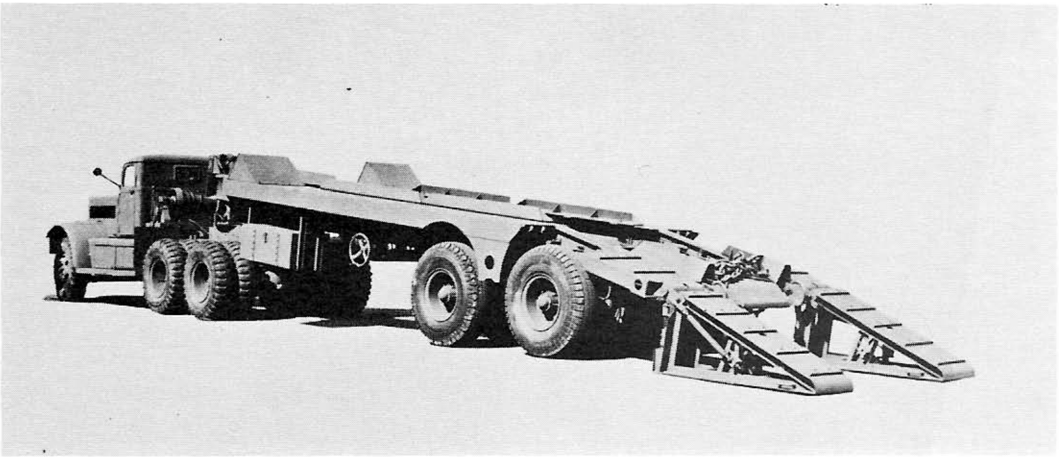
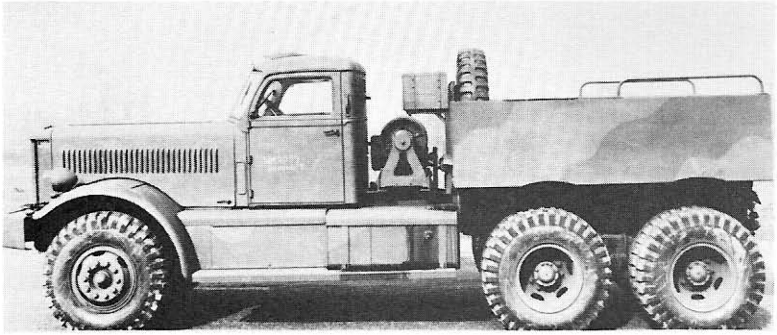




11

TRANSPORTER RECOVERY 40 ton M 19 TRACTOR DIAMOND T 12 ton 6 x 4 M 20
Length: 22ft 7in.
Width: 8ft 4in.
Height: 8ft 3in (Top of cab).
Weight: Unladen: 11 tons 18½ cwt (without ballast).
Laden: 18 tons 18½ cwt (6.65 tons of ballast).

By far the most widely used and longest in service in all parts of the world during and since World War II, the 40 ton M 18 combined the M 20 tractor made by Diamond T described here and a 40 ton 24 wheeled transporter trailer.

A Hercules DFXE 6-cyl diesel engine originally powered these tractors enabling them to deal with the recovery and transportation of tanks weighing up to 40 tons (like the Churchill and Sherman). Early models had the enclosed steel panelled cab shown in the picture which had a non-detachable top, with 2 seats. From August 1943 onwards, open cabs were built with an attachment for anti-aircraft machine-gun.

The Garwood 5M723B winch had a 300ft length of 7/8in dia cable with a 40,000 lb capacity. Fuel consumption 5.25 mpg (solo), 2.2 mpg with trailer laden.

(Photo: 11).

TRANSPORTER RECOVERY 40 ton M 19 TRAILER 40 ton 24 WHEEL M9

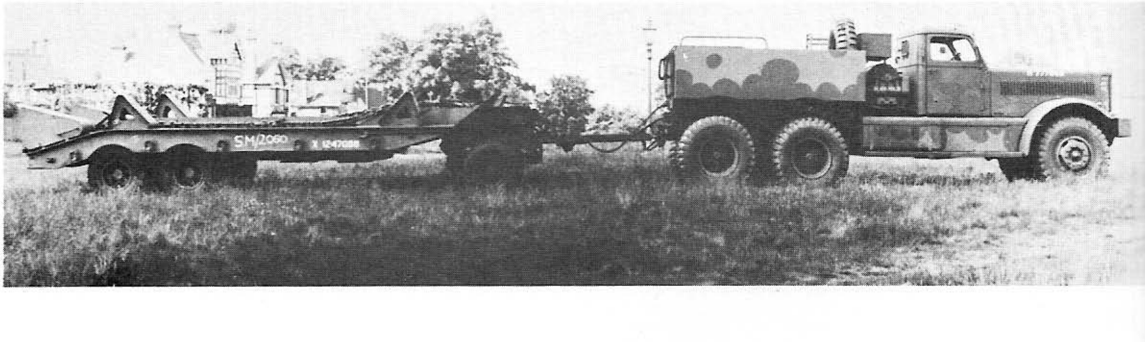
Used in conjunction with the Diamond T tractor described above and shown coupled in the picture is the Rogers Brothers 40 ton 12 twin wheel transporter trailer. Fitted with 18in wide triangulated loading ramps giving a loading angle of 30 degrees. This pattern trailer was also made by the Fruehauf Trailer Co; Pointer Willamette Co; and Winter-Weiss Co.

Length: 30ft 2in American (Rogers). 31ft 11in British Mk I
Width: 9ft 6in American (Rogers). 10ft 0in British Mk I
Height: 4ft 9in American (Rogers). 5ft 10in British Mk I
Weight: Unladen: 10 tons 2 cwt. gross 13 tons 12 cwt gross.
Laden: (Churchill) 50 tons 7cwt. gross 52 tons 14 cwt gross.

In this country similar trailers known as the British Mk I and Mk II were manufactured by Cranes, Dysons, and others. The American Models are easily identifiable as the tank carrier runways terminate in a sloping stop plate at the rear of the front wheels, whilst the British pattern runways continue on to the front of the trailer terminating in triangular stop blocks.

(Photo: 12).

12



RECOVERY VEHICLES

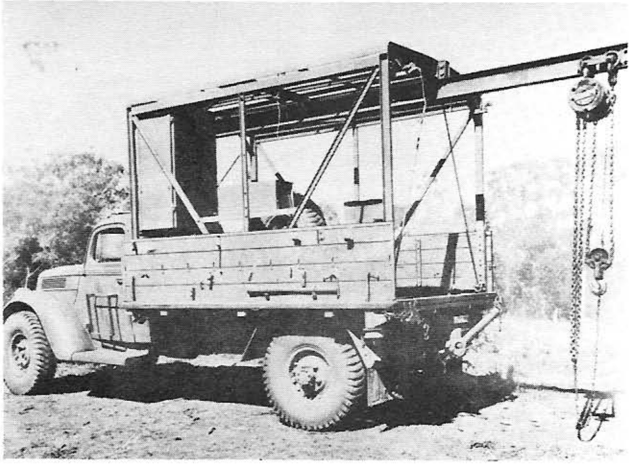
Like tank transporters, recovery vehicles used by the British Army also fall into three main groups.

First, vehicles with fixed though sometimes extendable jibs, like those generally in use with garages. These could lift the front or rear of a damaged vehicle and with he use of a rigid tow bar convey it to the workshop area for repair. Recovery of vehicles prior to towing away was however limited to occasions when a straight pull could be used or assistance of other vehicles or fixed objects such as trees called upon.

Secondly, those with booms and generally described as 'Wreckers' where it is possible to either use a straight pull with the booms locked together, or a pull to one side having used the second boom to stabilize the recovery vehicle.

Lastly, the Gantry type which had a rigid steel superstructure, complete with rail and movable block and tackle.

13



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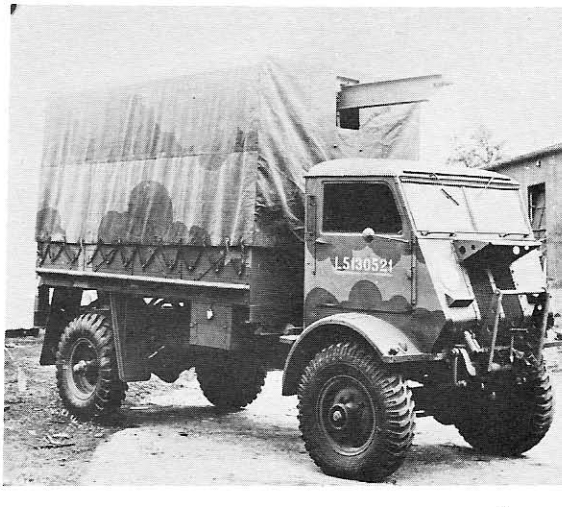
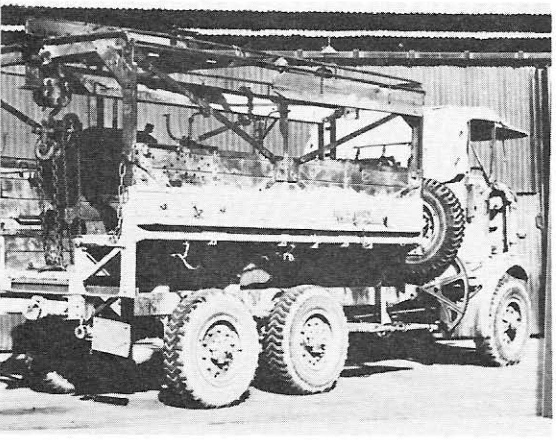


FORD LORRY 3-ton BREAKDOWN (Aust) No.2.
One of the very few Gantry type breakdowns to be mounted on a 4 x 2 chassis. This Ford chassis was assembled in Australia and then modified to take the recovery structure.
(Photo: 13).

FORD WOT 6 3-ton 4 x 4 LORRY BREAKDOWN GANTRY.
Length 19ft 11in Overall. 12ft 6in Inside Body.
Width: 7ft 6in Overall. 6ft 10in Inside Body.
Height: 10ft 6in Overall. 6ft 10in Inside Body.
Weight: Laden: 7 tons 10¾ cwt.
This breakdown gantry capable of lifting 2½ tons with a travelling hand operated block, is mounted on the well known Ford V8 petrol engined chassis designated WOT 6.
Later models termed "Lorry 3-ton 4 x 4 Machinery 24 kw RE" though similar in outward appearance incorporated a 24 kw generator driven by power take-off.
(Photo: 14).



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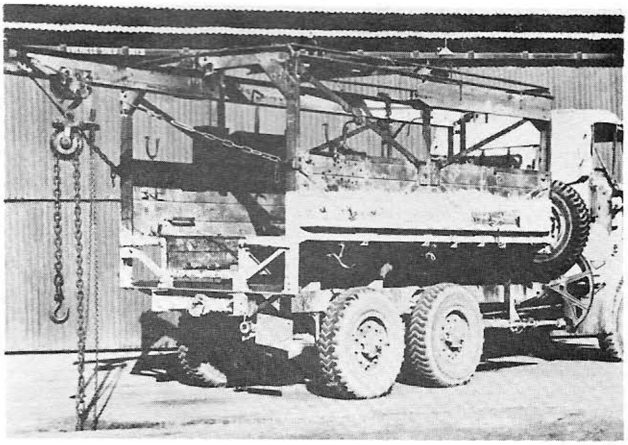

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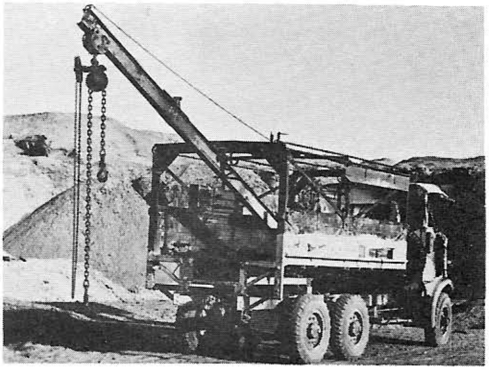

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LEYLAND RETRIEVER 3-ton 6 x 4 LORRY BREAKDOWN GANTRY.
Length: 20ft 11in Overall. 12ft 0in Inside Body.
Width: 7ft 6in Overall. 6ft 8½in Inside Body.
Height: 11ft 4in Overall. 5ft 4½in Inside Body.
Weight: Laden: 8 tons 12 cwt.

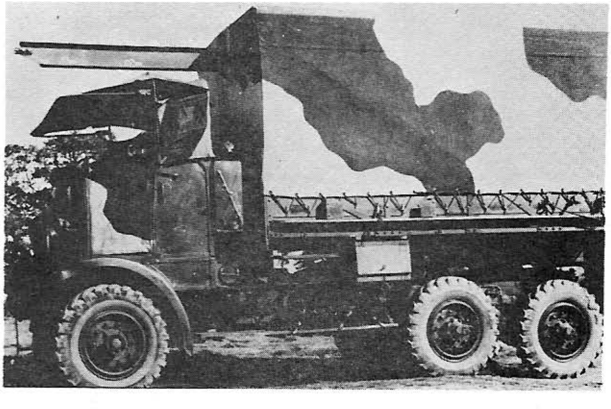
Three very similar Gantry pattern breakdown lorries were introduced prior to the war using the standard 3-ton 6 x 4 type of chassis. These were the Leyland 'Retriever' Crossley IGL.8. and the Guy FBAX. The body was made with a partly flat floor, partly well type. Superstructure supporting a longitudinal runway for the hand operated travelling block. The capacity of the runway being 2½ tons 3 feet from end of body, 1½ tons at 5 feet, 1 ton at 6 feet, and 15 cwt with increased height when the front end of the runway was dropped to floor level. The vehicle being fitted with a 5-ton winch. The Leyland chassis having a 5.9 litre capacity 4-cyl. petrol engine, semi-enclosed cab seating 2, with folding canopy and, in later models a fixed windscreen.

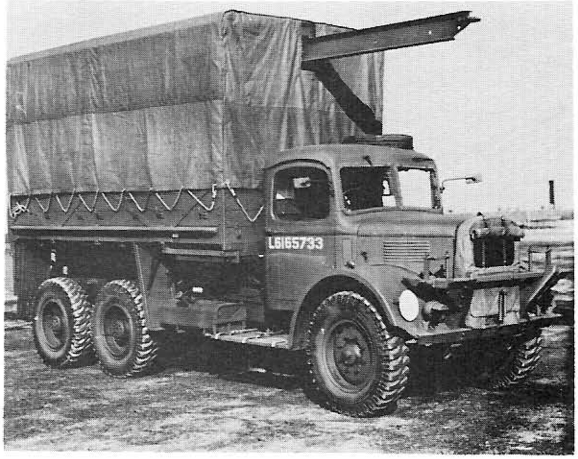
CROSSLEY IGL8 3-ton 6 x 4 LORRY BREAKDOWN GANTRY.
Length: 20ft 5in.
Width: 7ft 6in.
Height: 11ft 4in.
Weight Laden: 9 tons 12½ cwt.

Powered by a Crossley 4-cyl. Petrol engine of 5.2 litres capacity, body details as Leyland Retriever.

GUY FBAX 3-ton 6 x 4 LORRY BREAKDOWN GANTRY.
Length: 19ft 8in.
Width: 7ft 6in.
Height: 11ft 4in.
Weight: Laden: 9 ton 7¾ cwt.
Guy 5.1 litre 4-cyl. petrol engine.
(Photos: 15, 16, 17 & 18. Imperial War Museum H 24214).

18





19

AUSTIN K6 3-ton 6 x 4 LORRY BREAKDOWN GANTRY.
Length: 20ft 3in Overall. 12ft 3in Inside Body.
Width: 7ft 6in Overall. 6ft 10½in Inside Body.
Height: 11ft 0¼in Overall. 6ft 6in Inside Body.
Weight: Unladen: 6 tons 18 cwt. (Inc. ballast).
Laden: 9 tons 8 cwt. (Inc. 50 cwt load suspended).

Austin K6 chassis modified by fitting heavier springs, a 5-ton winch carried in the body when not lifting or towing; and being shortened for use as a breakdown lorry.

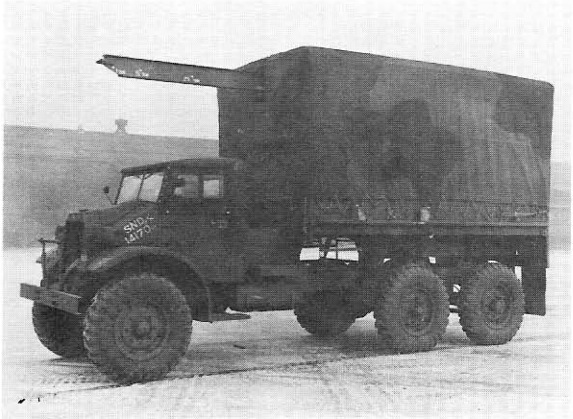
Single line vacuum servo trailer brake connection also fitted for use when towing Trailer Light Recovery.
(Photo: 19).

A similar body was also fitted to the Canadian Military Pattern Ford F 60H 3-ton 6 x 4 chassis.
(Photo 20: Imperial War Museum CH 836).

DODGE VK60 3-ton LORRY BREAKDOWN GANTRY.

A Garwood WSK-11-16-401 winch with 150 feet of cable.
The engine, a Dodge T 124 33.7 hp 6-cyl. petrol driven.
Length: 21ft 8in.
Width: 7ft 6in.
Height: 11ft 6in.
Weight: Laden: 7 tons 19 cwt.
The gantry body fitted to the Leyland, Crossley and Guy was also mounted on the American Dodge VK 60 3-ton 6 x 4 chassis, which had a steel panel cab.
(Photo: 21).

20



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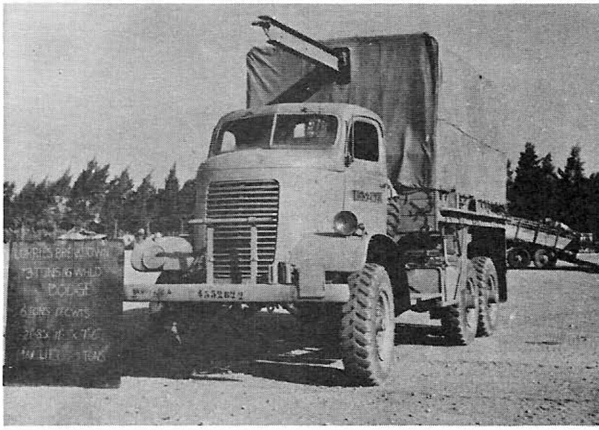

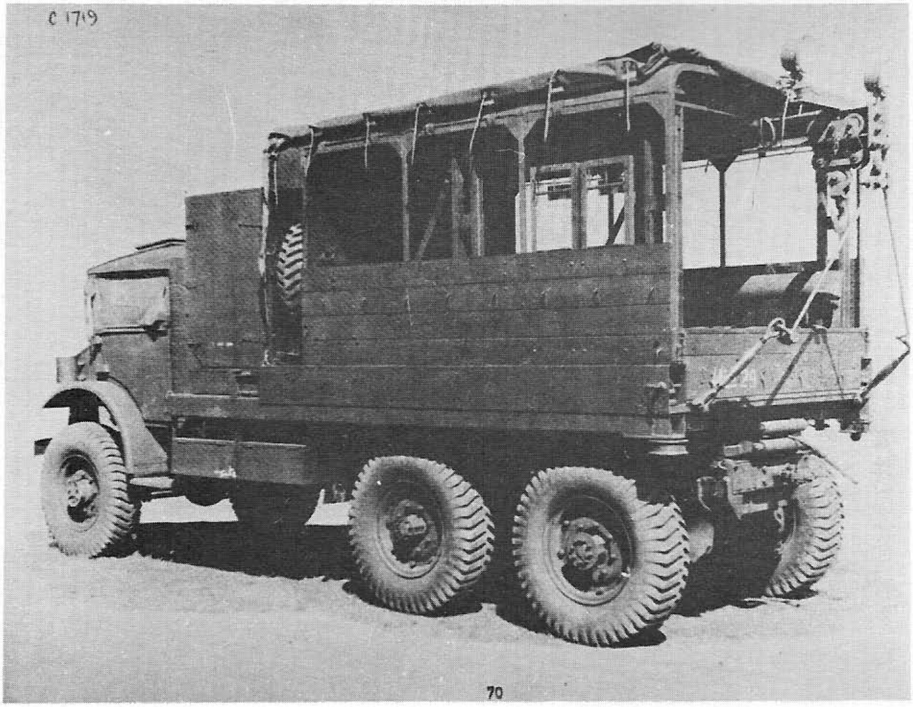

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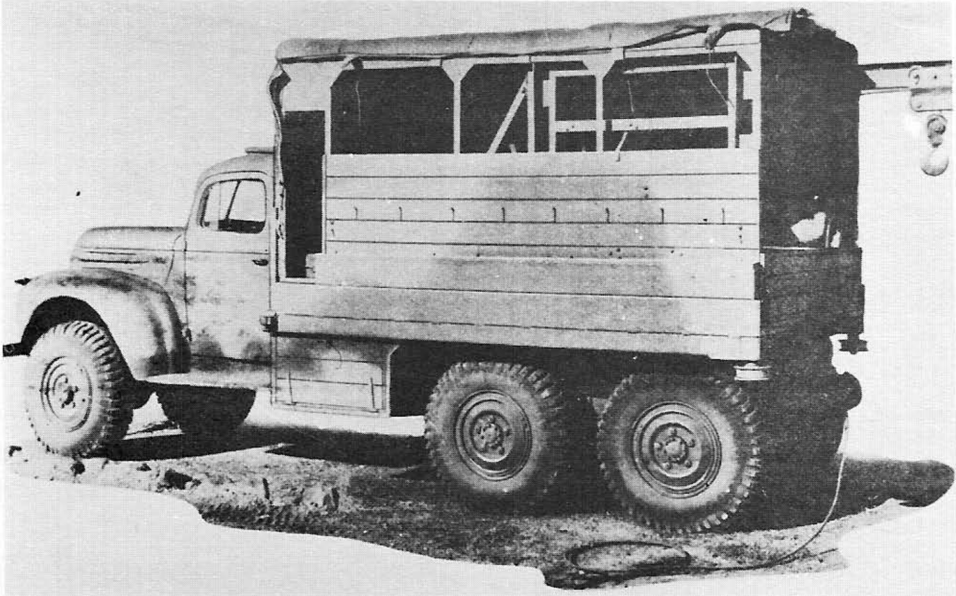
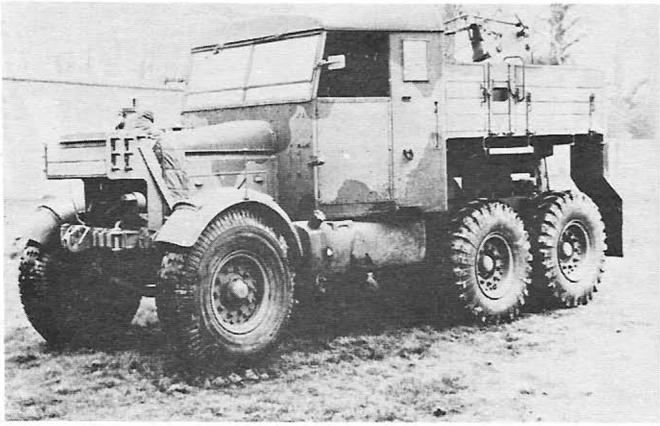
Australian 3-ton 6 x 6 Breakdown (Aust) No.4.

23

Australian 3-ton 6 x 6 Breakdown (Aust) No.3A





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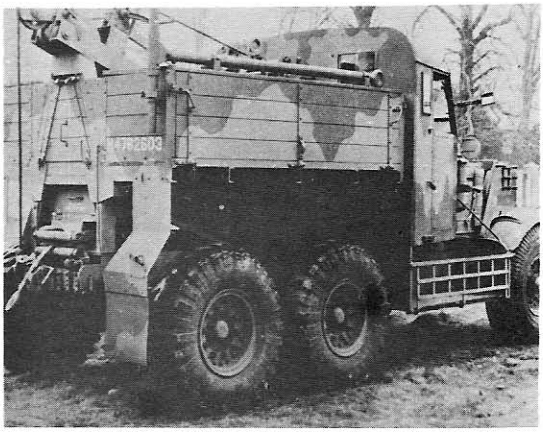

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Morris CD/SW 30-cwt 6 x 4 BREAKDOWN
Length: 17ft 4½in.
Width: 6ft 8in.
Height: 7ft 9in.

Mounted on a Morris CD/SW 30-cwt 6 x 4 chassis, this breakdown vehicle used counterbalance weights fitted to racks at the front to enable the hoist to be used, the weights being stowed on the body floor when not required. The 1-ton hoist operated by pulley blocks attached to a jib at the rear of the chassis frame in conjunction with a triangulated towing bar.

Powered by a Morris 6-cyl. petrol engine, 5 forward and 1 reverse gear, with a 4-ton winch with 120ft 0.63in diameter cable.

(Photo 26: B. H. Vanderveen).

SCAMMELL SV/25 6 x 4 HEAVY BREAKDOWN.
(1) Long lift, 2-ton load;
(2) Short life, 3-ton load;
(3) Folded away for travelling, the hand operated hoist being worm-driven.
Length: 20ft 3in (25ft jib fully extended).
Width: 8ft 6in.
Height: 9ft 5in.
Weight: Laden: 10 tons 17 cwts gross.

Probably the most widely used and longest in service of the British recovery vehicles, the Scammell Model SV/2S.

Powered by a Gardner 6LW diesel engine (RAC Rating 43.5 hp) with 6 forward and 1 reverse gear this tractor had a range of 535 miles at a maximum governed speed of 24 mph.

Special fittings included an 8-ton vertical winch with 450 feet of 7/8 inch cable, and detachable ballast weights mounted in front of the radiator.

The breakdown crane of sliding jib design being operated by means of a small hand winch, having three positions, see drawing:

(Photo 24 & 25: Scammell Lorries).

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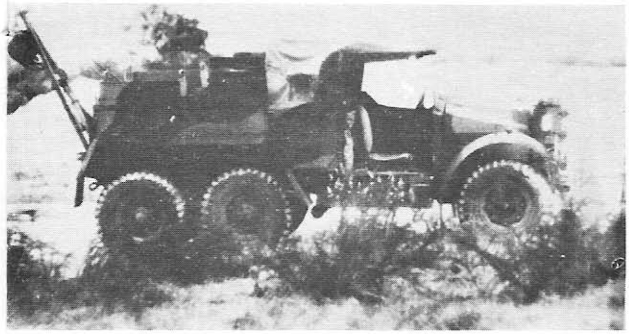
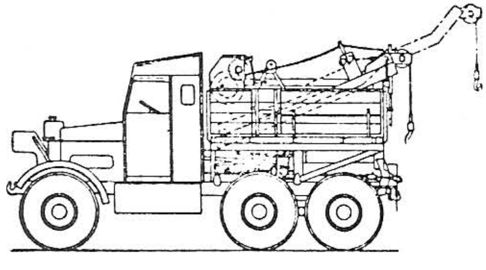
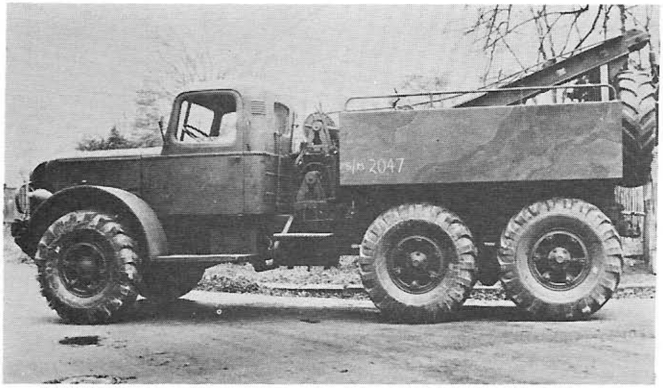






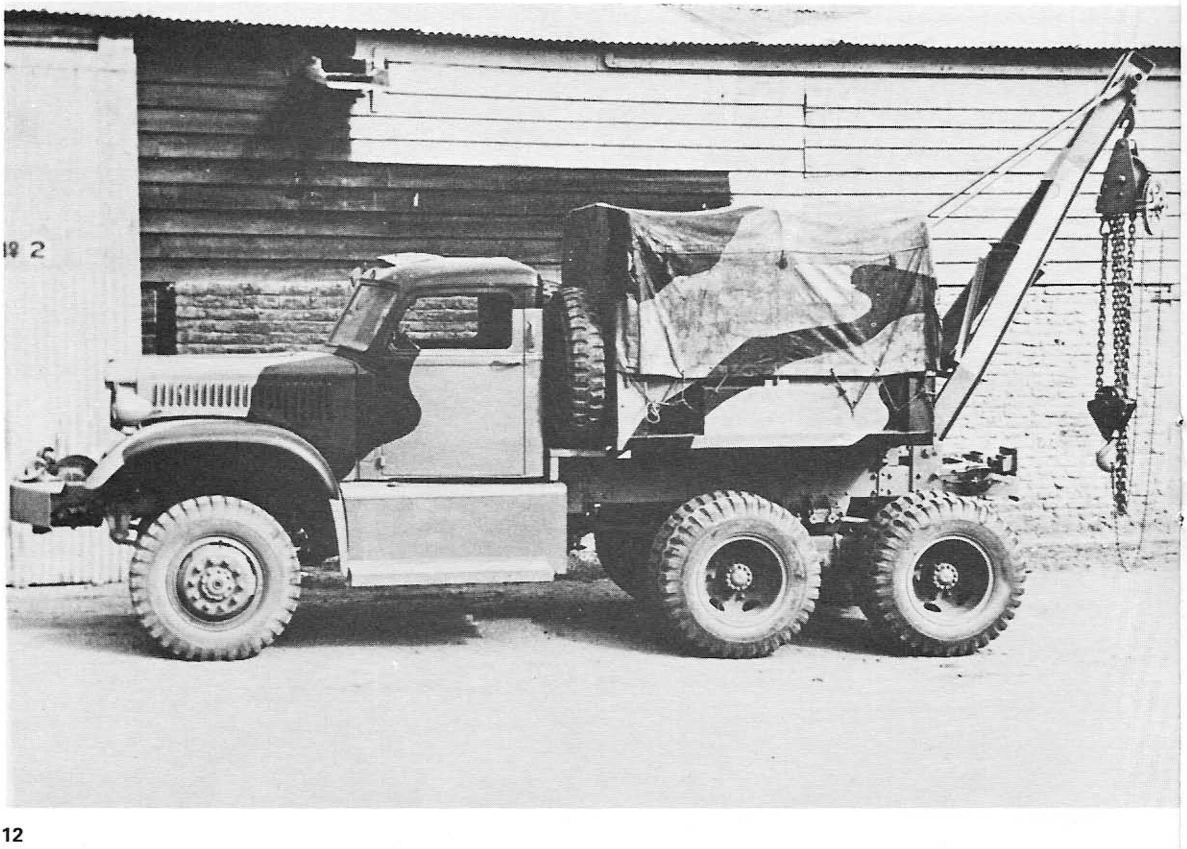
MACK LMSW 6 x 4 HEAVY BREAKDOWN.
Length 24ft 6in.
Width: 8ft 3in.
Height: 9ft 10in (jib lowered).
Weight: Unladen: 11 tons.
Laden: 12 tons 10 cwt.

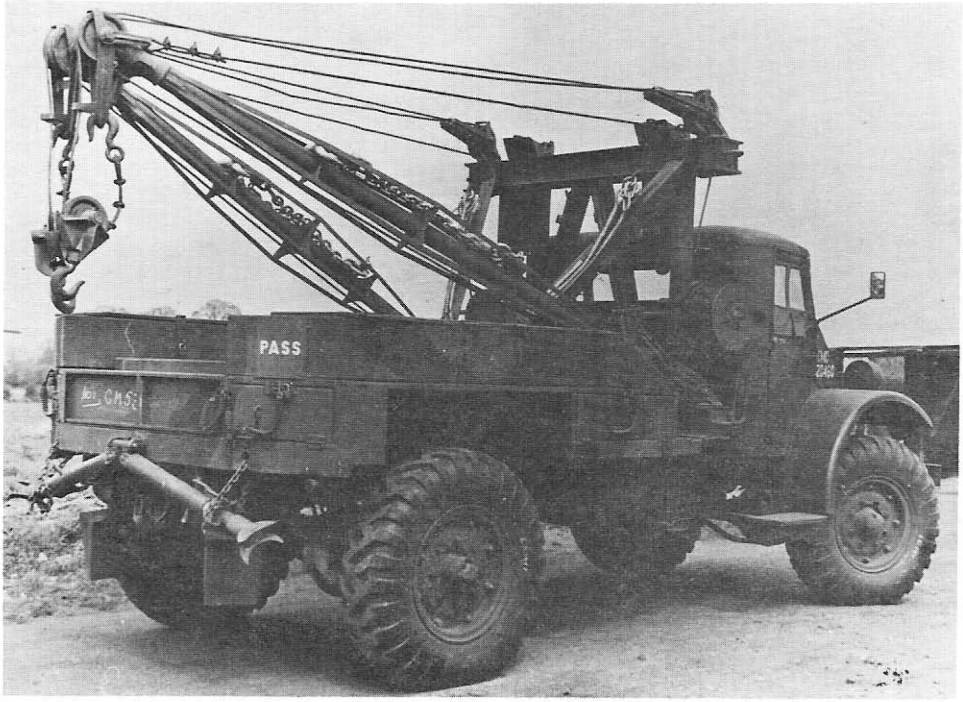
This left hand drive Heavy Breakdown had a Mack EP 6-cyl. 10-litre capacity petrol engine, and mounted the following recovery equipment. Power operated main winch for pulling from the rear. Power operated Crane Winch for hoisting with a capacity of 10,000 lbs 3 feet from end of chassis (Both Garwood Model 401).

Hand operated boom winch for extending and retracting the crane jib.

DIAMOND 'T' 4-ton 6 x 6 HEAVY BREAKDOWN.
A number of Diamond 'T' 4-ton 6 x 6 General Service chassis were modified for use as heavy breakdown vehicles as shown in the picture. (Photo: 28).

28





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FORD ECO 98T 3-ton 4 x 2 LIGHT BREAKDOWN

Length: 19ft 0in.
Widht: 7ft 1in.
Height: 8ft 3in (Top of wrecker frame).
Weight: Unladen: 3 ton 6 cwt.
Laden: 3 ton 15¾ cwt.

A conventional Canadian Ford ECO 98T 3-ton chassis, modified to meet service needs, fitted with a Holmes Wrecker Unit. The wrecker has two swinging booms with 2 separate hand winches with the booms locked together, a pull off the rear of the vehicle can be made with either or both winches. When booms are swung out to either side, the cable from one winch is used to anchor the unit to the ground whilst the opposite winch is used for lifting. Cables can be removed from booms and pull made direct from the top of the wrecked frame. Each cable being 100 ft long and 3/8in diameter. A V-type towing frame is also fitted.

The chassis has a Ford V8 Mercury petrol engine with a RAC rating of 32.5 hp.

CHEVROLET 15-43 x 2 3-ton 4 x 2 LIGHT BREAKDOWN

Length: 19ft 2in.
Width: 7ft 1in.
Height: 8ft 2in (Top of wrecker frame).
Weight: Unladen: 3 ton 6 cwt.
Laden: 3 ton 17 cwt.

Holmes wrecking Unit similar to that fitted to the Ford ECO 98T chassis was also mounted on Chevrolet 15-43 x 2 3-ton chassis, having a 6-cyl. petrol engine with an RAC rating of 29.4 hp.

CHEVROLET C 60L 3-ton 4 x 4 LORRY BREAKDOWN

Garwood
Length: 20ft 5¼in.
Width: 8ft 0in.
Height: 9ft 0in.
Holmes
Length: 19ft 7in.
Width: 7ft 5in.
Height: 8ft 9in.

Using the same breakdown equipment as the Chevrolet C 60S but utilising the longer 158in wheelbase chassis built by Chevrolet (and also by Ford).

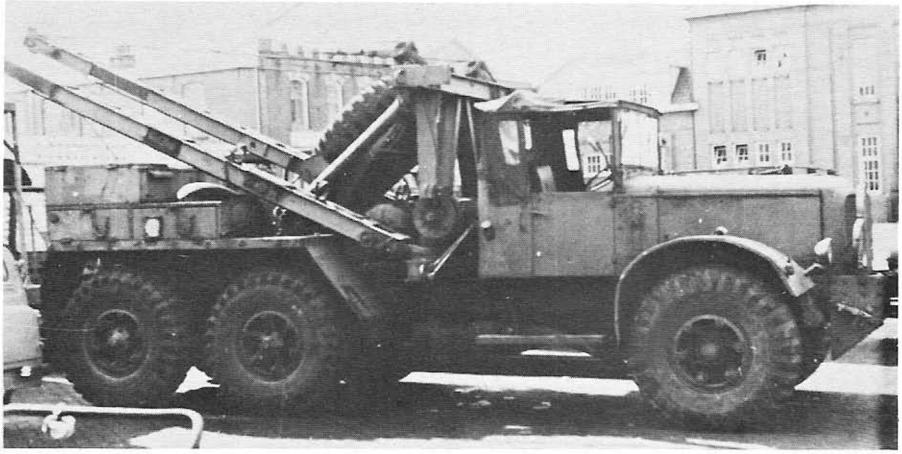
Overall dimensions varied with Garwood or Holmes equipment being used.

CHEVROLET C 60S 3-ton 4 x 4 BREAKDOWN LIGHT.

Length: 18ft 6in.
Width: 8ft 0in.
Height: 9ft 4½in (top of wrecker frame).
Weight: Laden: 1,6000 lbs.

Used by Workshops and Light Aid Detachments for the recovery and towing to repair areas of the lighter types of vehicles and guns. Mounted on a standard 134in wheelbase Canadian Military Pattern Chevrolet chassis (C 60S), this type of Breakdown was fitted with either a Holmes or Garwood Wrecker Unit, having two swinging booms with separate winches driven from the transmission.

(Photo 29: Imperial War Museum CH 1474).



30

MACK LMSW 5-ton 6 x 4 BREAKDOWN WRECKER.
Length: 24ft 6in.
Width: 8ft 3in.
Height: 9ft 10in.

Using the same chassis as the Heavy Breakdown, but fitted with boom-type wrecking equipment this vehicle was used to recover heavy wheeled vehicles.

Equipment included oxy-acetylene welding and cutting outfit; double booms with 8-ton capacity or 16-tons when locked, side brace legs being used.

Two types of cab, the all enclosed steel panelled or open soft top pattern.

(Photo 30).

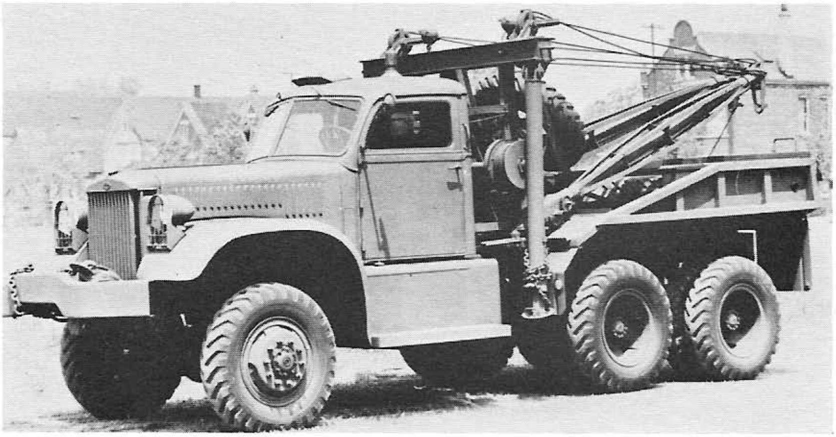
DIAMOND 'T' 4-ton 6 x 6 BREAKDOWN WRECKER
Length: 24ft 2in.
Width: 8ft 3½in.
Height: 9ft 8in.
Weight: unladen 8 tons 1 cwt. Laden 9 tons 18 cwt.

This left hand drive American Military Pattern vehicle by Diamond 'T' had a Hercules RXC 6-cyl. petrol engine and was widely used by all the Allied Armies.

Equipment includes two telescoping brace legs, two swivel booms with separate power winches each with 200ft of cable, snatch blocks, anchors and oxy-acetylene welding equipment. When lifting from the side, the wrecking structure made by Ernest Holmes, operated by lowering the brace leg under the load boom. The other boom is swung out on the opposite side and is used with the ground anchor as an anchor boom, for loads up to 10-tons. For light loads of up to 5-tons, the booms can be locked together to pull from the rear of the wrecker. Some chassis had a soft top cab.

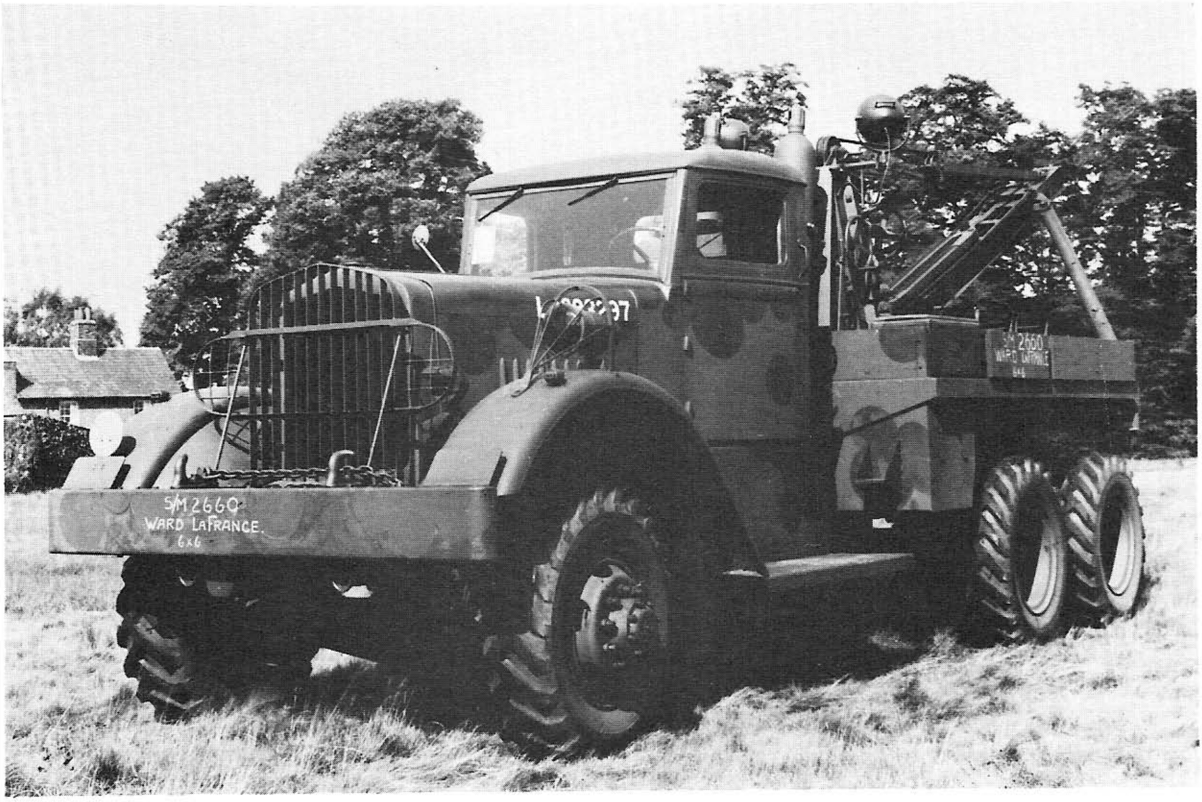
(Photo 31).

31



WARD LA FRANCE 10-ton 6 x 6 BREAKDOWN (also known as 4-ton 6 x 6 Wrecker M.I.).
Engine – Continental 22R 6-cyl. petrol (8.2 litres).
Length: 26ft 6in.
Width: 8ft 3in.
Height: 10ft 2in.
Weight: Unladen:
Laden: 13 tons (fully equipped, full tanks, no load on jib).
Used by recovery units and engineers alike for heavy lifting and recovery. Equipped with front winch of 10-ton direct pull capacity, rear winch of 20-ton direct pull capacity, power driven swinging boom (180 degrees traverse) capable of 10-ton lift with boom jacks and body ground jacks, also had oxy-acetylene welding gear.
(Photo 32: Imperial War Museum CH 2035).

32

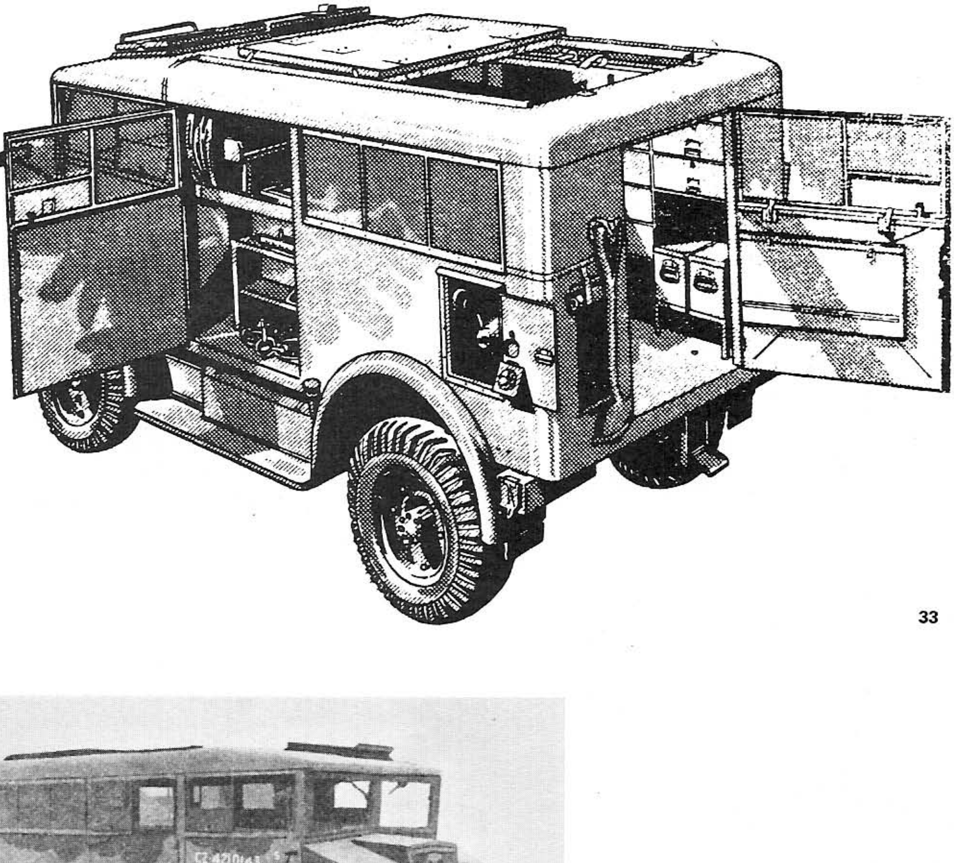


MACHINERY TRUCKS

There are two distinct types of Machinery and Workshop truck, the "House" type with coachbuilt body, and the "GS" type with either a purpose built or modified general service body covered by a canvas tilt.

The House type varied with the plant carried and the use to which the vehicle was to be put, but as a general rule it had a metal body with glazed windows, doors, compartments for equipment etc. It was a conspicuous vehicle, and as such mobile repair facilities were obvious targets and GS bodies easier to produce and far less easy to spot as specialist vehicles, the House type body was slowly superceded by the GS pattern, House type vehicles remained in service throughout the war however, being used by all Allied Armies.

CHEVROLET C8A TRUCK HEAVY UTILITY 4 x 4 MACHINERY "ZL"
Overall: Length: 13in 7in.
Width: 6ft 7in.
Height: 7ft 4in.
Mounted on the Canadian Military Pattern Heavy Utility C8A chassis built by Chevrolet, this vehicle was used to maintain, repair and test signals equipment.
Main equipment carried was a 115 volt DC generator set, directly connected to a 1 hp Onan 358RS engine; a main distribution board, and an air cooled transformer. Kits of spares to replace mechanical components were also provided.
(Photos: 33 & 34).



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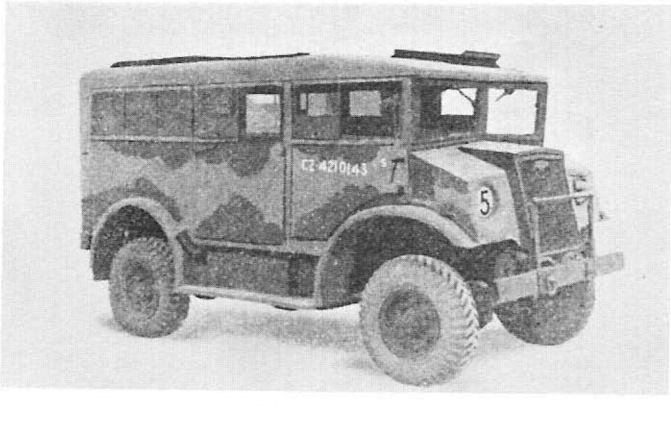


G.M.C. AFKX-352 1½-3 ton 4 x 4 WITH HOUSE TYPE BODY.
Length: 19ft 6in Overall. 12ft 8in (Behind driver's seat) Inside Body.
Width: 8ft 0in. Overall. 7ft 6in. Inside Body.
Height: 10ft 0in. Overall. 6ft 4in. Inside Body.
Weight: Varies with layout.
This chassis by G.M.C. was powered by 6-cylinder petrol engine of 4.04 litres capacity, with left hand drive steering.

Basic Body details are as follows:
Forward control design, no partition between main body and driver's seats, 5 drop windows either side protected by removable grills. Built in heater in body, or can be used as fan only in addition to small fan on dash. Interior lighting wired for 110 volt to be taken from generator on models so fitted or can be tapped from outside on other models. (Photo: 35).
Seven interior layouts in general use, details :

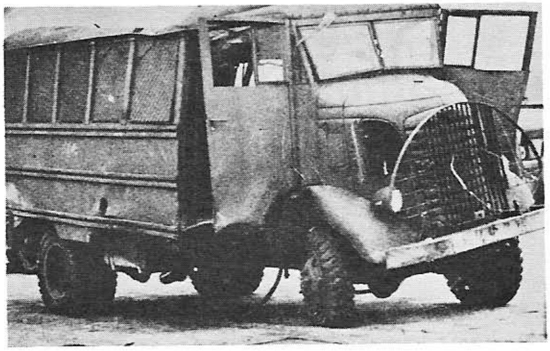
AUTOMOTIVE REPAIR (SM.2518)
5 k.w. 110 volt, 60 cycle generator single phase AC driven from PTO on transfer case. 3 benches, battery charger, air compressor, electric drills ¼in x ½in. Grinders:– cylinder, brake cylinder and valve seat. Piston pin hole. Axle straightening press, hydraulic ram 10-ton, valve refacer, valve spring tester, vice and a very wide range of small tools.

MACHINE SHOP (SM 2520)
5 k.w. 110 volt 60 cycle generator, single phase AC driven from PTO on transfer case. 3 benches, electric drill 1–¼in, grinder, twist drill 7in bench type. Lathe gap 14in–21in swing. 6ft bed, complete with accessories.

SMALL ARMS REPAIR (SM 2521)
Portable generating set, 1½ k.w., 110 volt AC 60 cycle. Two benches (as on Tool and Bench) with boxes of spare parts stored beneath. Portable electric drill 3/8in, bench grinder 6in vice, wide range of gauges and tools for servicing small arms.

TANK MAINTENANCE (SM 2524)
5 k.w. 110 volt, 60 cycle generator. Portable electric drill ½in bench grinder 7in. portable grinder 6in. armature testing growler. Portable testers as follows:– 2 containing ammeter, voltmeter, rheostat, vacuum and fuel pump gauge, compression gauge, variable spark gap, 1 exhaust gas combustion analiser, spark plug and valve spring tester, vice and a very wide range of small tools.

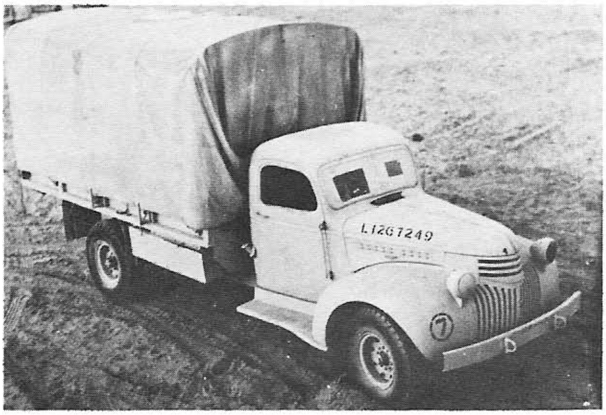
35



TOOL & BENCH (SM 2523, 2545)
Two benches either side measuring 11ft 3in x 2ft 1¼in. Centre gangway 3ft 1¼in wide. 110 volt 60 cycle bench grinder and 2 vices fitted to benches. Wide range of tools carried in locked bins under benches either side.

SPARE PARTS (SM 2522)
Two benches either side 11ft 0in long x 1ft 6in wide surmounted either end by tiers of trays 2ft 2in long. Bins under benches for parts.

WELDING M3 (SM 2526)
Generator welding, 200 ampere driven from PTO on transfer case. One bench, one welding table, portable electric drill, portable forge, portable electric grinder 6in, power hacksaw, anvil and vice.
Oxy-acetylene welding and cutting outfit, together with a wide range of tools and equipment.



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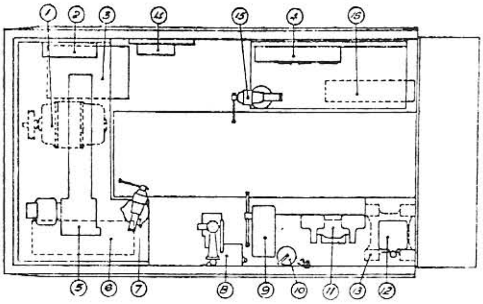
Principal items of equipment, numbered to correspond with plan left, Forward end of body, lathe bench; right hand side, fitters bench; left hand side, drill bench.

1. 7½ kw DC Generator driven from PTO of gearbox (4 x 2 models), of transfer case (4 x 4 models);
2. 110 volt switchboard for above;
3. 7½ volt battery charger;
4. Charging panel for above;
5. 10in bench lathe;
6. Air Compressor;
7. 5in swivel base vise;
8. Post Mill;
9. Arbor Press;
10. 2 qt. blow torch;
11. Bench grinders;
12. ½in Black and Decker Electric Drill;
13. Anvil;
14. Battery Service Kit;
15. 5in Plain Vise;
16. Portable Forge.

Also 3½in Plain Vise on portable stand, cargo lights, hand lamps. Later types fitted with 3 kw generator with a seperate welding generator, in place of 7 kw generator.



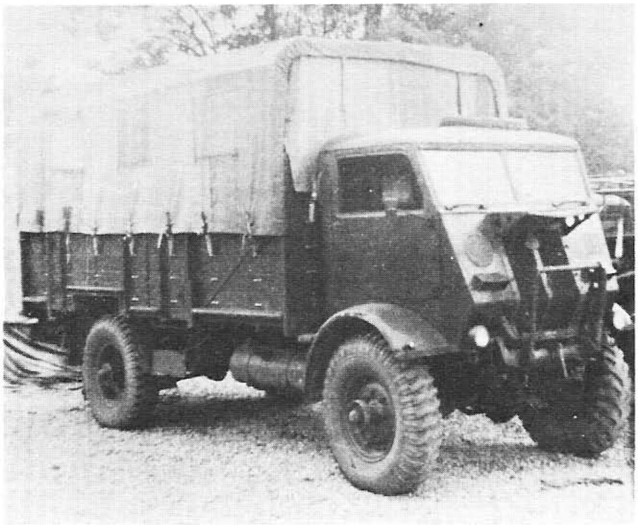
Some of the WORKSHOP TRUCKS 3-ton 4 x 2
Country of Origin: Canada.
Description: Workshop 160inwb.
Chassis to which fitted: Chevrolet 15–43 x 2
Length: 21ft 7in.
Width: 7ft 4in.
Height: 11ft 0in.
GS type with reinforced flat floor, see diagram for layout and typical contents.
(Photo 36).

Country of Origin: Modified Conventional Vehicles.
Description: Workshop 158inwb.
Chassis to which fitted: Ford ECO 98T.
Length: 21ft 2in.
Width: 7ft 4in.
Height: 10ft 3in.

Country of Origin: Gt. Britain.
Description: Workshop RASC.
Chassis to which fitted: Bedford OY.
Length: 20ft 5in.
Width: 7ft 1½in.
Height: 10ft 2in.
Standard GS body with lathe, 7½ kw dynamo (driven by a sprocket on the carden shaft, prop, shaft being disconnected), drill, Quasi-Arc welding plant, portable forge, compressor.

Country of Origin: RASC Conversion Vehicles.

Description: Workshop RASC.
Chassis to which fitted: Commer Q4.
Length: 21ft 1in.
Width: 7ft 1½in.
Height: 10ft 3in.



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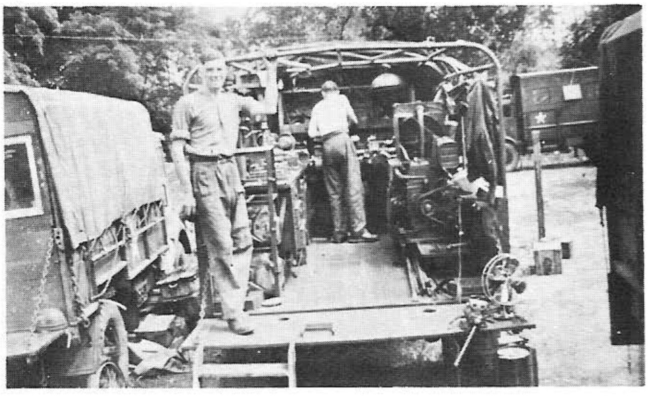
Some of the MACHINERY & WORKSHOP TRUCKS
3 ton 4 x 4 of BRITISH MANUFACTURE

Description: Machinery Flat Floor No.4. Mk.6.
Type: GS.
Chassis: Ford WOT 6.
Roles: Machinery "B", "H", "1-30", "J", "M", "X".
Length: 20ft 3in.
Width: 7ft 4½in.
Height: 10ft 1½in.
(Photo: 38).

Description: Machinery No.8.
Type: House.
Chassis: Ford WOT 6.
Roles: Machinery "D-1", "F", "Z".
Length: 19ft 11in.
Width: 7ft 4½in.
Height: 10ft 6in.

Description: Machinery Flat Floor No.4. Mk.5.
Type: GS.
Chassis: Albion FT 11.
Roles: Machinery "B", "H", "1-30", "J", "M", "X".
Length: 20ft 8in.
Width: 7ft 9½in.
Height: 10ft 2in.
(Photos 39 and 40: Alex Craig).

39



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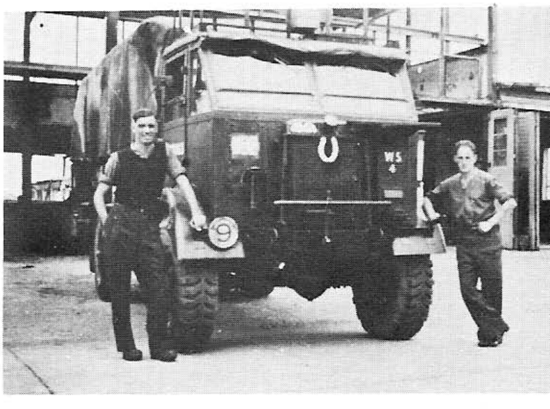

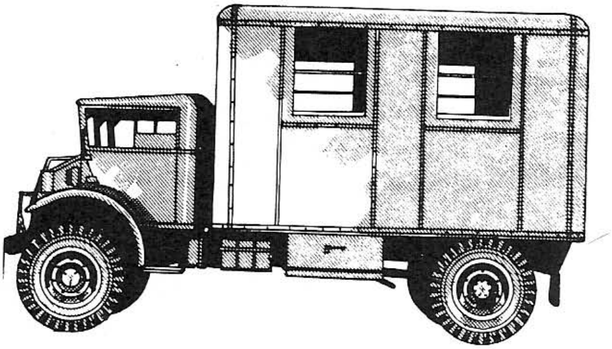

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Some of the MACHINERY & WORKSHOP TRUCKS 3-ton 4 x 4 CANADIAN MANUFACTURE (158in wheelbase)

Mounted on Canadian Military Pattern Chevrolet C60L and Ford F60L chassis: –

Description: Machinery D1-1.
Type: House.
Chassis: Chevrolet.
Length: 18ft 8¼in.
Width: 7ft 5¼in.
Height: 10ft 0¾in.
A 3 kw switchboard, 9in Stark No.4 precision bench lathe, drill press, 8in bench grinder, 4in Peerless Watchmaker's lathe, Black & Decker portable electric drill.
(Photo: 41).

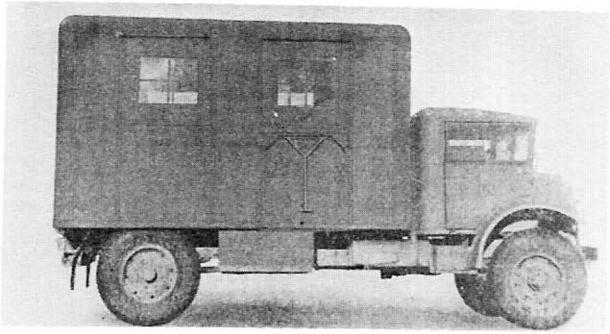
Description: Machinery Light D.
Type: GS.
Chassis: Chevrolet & Ford.
Length: 20ft 1in.
Width: 7ft 4in.
Height: 10ft 0in.
Steel benches with drawers. ½in Black & Decker drill. Bench Grinder, blow torch, arbor press, drill press, portable paint equipment, lathe 5in swivel vise, compressor, portable electric welder with 7½ kw D.C. generator (later models 3 kw replacing the 7½ kw).

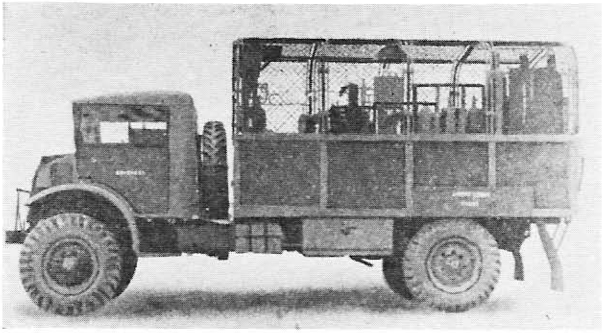
Description: Machinery B Mk II.
Type: House.
Chassis: Ford.
Length: 18ft 11½in.
Width: 7ft 6in.
Height: 10ft 0¾in.
A 7½ kw switchboard, Universal Milling machine, 1in Heavy Duty portable drill, a 7in bench tool grinder.
(Photo: 42).

Description: Machinery 130.
Type: GS.
Chassis: Chevrolet.
Length: 20ft 1in.
Width: 8ft 0in.
Height: 9ft 6in.
Engine driven 7½ kw generator for charging 12 and d 24 volt storage batteries, a Wily's MB 4-cyl. engine for charging 6 volt storage batteries. A.15 volt DC lighting distribution panel.

Description: Machinery BC.
Type: GS.
Chassis: Chevrolet.
Length: 20ft 1in.
Width: 8ft 0in.
Height: 9ft 6in.
Engine driven 7½ kw generator for charging 12 and 24 volt storage batteries, a Willy's MB 4-cyl. engine for charging 6 volt storage batteries.

42





43

Description: Machinery BS.
Type: GS.
Chassis: Chevrolet.
Length: 19ft 2½in.
Width: 7ft 3 7/8in.
Height: 10ft 5 3/8in.
Two double tier wood racks for storing batteries total capacity 84 6-volt. An Exide Battery condition and Capacity Meter.

Description: Machinery A Mk II.
Type: GS.
Chassis: Ford.
Length: 20ft 2in.
Width: 7ft 9¼in.
Height: 9ft 10in.
A 7½ kw DC generator, control panel, lighting system, South Bend 117 screw cutting lathe, Black and Decker portable drills.

Description: Machinery H Mk II.
Type: GS.
Chassis: Ford.
Length: 20ft 3in.
Width: 7ft 10in.
Height: 9ft 10in.
A 7½ kw DC generator, control panel lighting system, 9ft x 10ft lathe, drill press and tool grinder.

Description: Machinery J.
Type: GS.
Chassis: Chevrolet.
Length: 20ft 1in.
Width: 7ft 6in.
Height: 9ft 10in.
An Ingersoll Rand 303 type 30 three stage compressor driven by a Willys engine to provide a constant supply of dry compressed air, 3 5½in and 4 9in air reservoirs, and space for 3 acetylene and 3 oxygen cylinders.

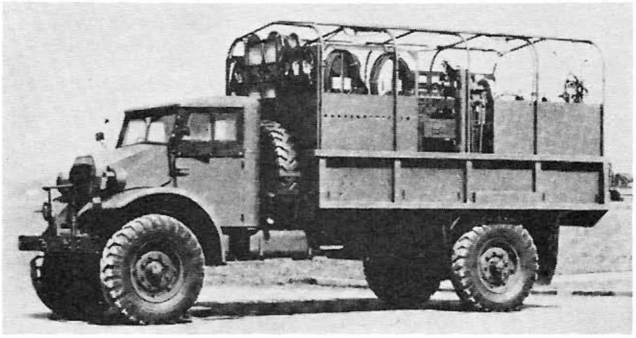
Description: Machinery CZ Mk II.
Type: House.
Chassis: Ford.
Length: 18ft 11½in.
Width: 7ft 6in.
Height: 10ft 0 5/8in.
A 3 kva generator, a 3 kw switchboard, 2 portable drills and a bench grinder.

Description: Machinery F Mk II.
Type: House.
Chassis: Ford.
Length: 19ft 0in.
Width: 7ft 5½in.
Height: 10ft 1in.
A 7½ kw generator, control panel, bench drill, 2.1 kw Drying Oven, A Delta 1304 7in bench grinder, commutator lathe.

Description: Machinery Z Mk II.
Type: House.
Chassis: Ford.
Length: 18ft 11½in.
Width: 7ft 7¼in.
Height: 10ft 2 1/8in.
AC generator, portable drill, battery service kit.

Description: Workshop.
Type: GS.
Chassis: Chevrolet & Ford.
Length: 21ft 1½in.
Width: 7ft 4in.
Height: 10ft 3in.
(for details and layout see 37 and 44).

44



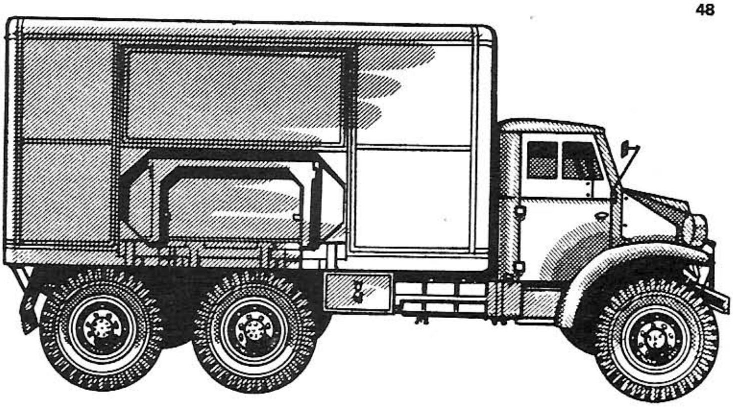
Some of the MACHINERY & WORKSHOP TRUCKS 3-ton 6 x 4

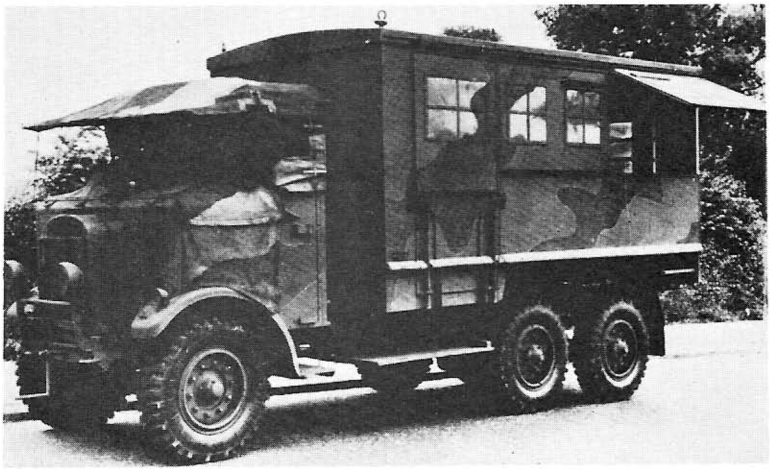
Country of Origin: Gt. Britain.
Description: Machinery (House Type).
Chassis: Albion.
Length: 22ft 0in.
Width: 7ft 5in.
Height: 10ft 3in.
Chassis: Leyland 'Retriever'.
Length: 22ft 4in.
Width: 7ft 6in.
Height: 10ft 8in.
Chassis: Thornycroft 'Tartar'.
Length: 22ft 6in.
Width: 7ft 5in.
Height: 10ft 3in.
(Photo: 45).
Windows & top part of body hinged to swing outwards for ventilation. Bottom of nearside door swings down to form a platform for battery charging 7½ kw generator from PTO. Provision for lathes, etc.

Country of Origin: Gt. Britain.
Description: Machinery No.4. Mk.3. (Flat floor).
Chassis: Albion.
Length: 22ft 5in.
Width: 7ft 5in.
Height: 11ft 6in.
Chassis: Crossley IGL 8.
Length: 22ft 9in.
Width: 7ft 6in.
Height: 11ft 7in.
Chassis: Guy FBAX.
Length: 21ft 6in.
Width: 7ft 5in.
Height: 11ft 8in.
Chassis: Karrier CK6.
Length: 22ft 5in.
Width: 7ft 5in.
Height: 11ft 6in.
Chassis: Leyland 'Retriever'.
Length: 22ft 8½in.
Width: 7ft 6in.
Height: 11ft 9in.
(Photos: 46 and 47).
Chassis: Thornycroft 'Tartar'.
Length: 22ft 5in.
Width: 7ft 5in.
Height: 11ft 6in.

Country of Origin: Canada.
Description: Workshop (House type).
Chassis: Ford C290Q F60H.
Length: 22ft 11¼in.
Width: 7ft 10in.
Height: 11ft 2½in.
Top section side doors form a canopy when raised, lower section a workbench when lowered. Equipment includes arbor press, brake reline tools, drill press, battery recharger, welding equipment.
(Photo: 48).

48





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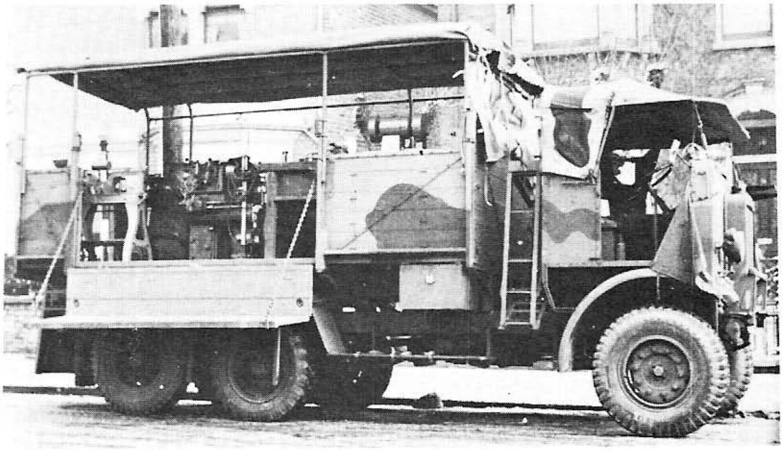
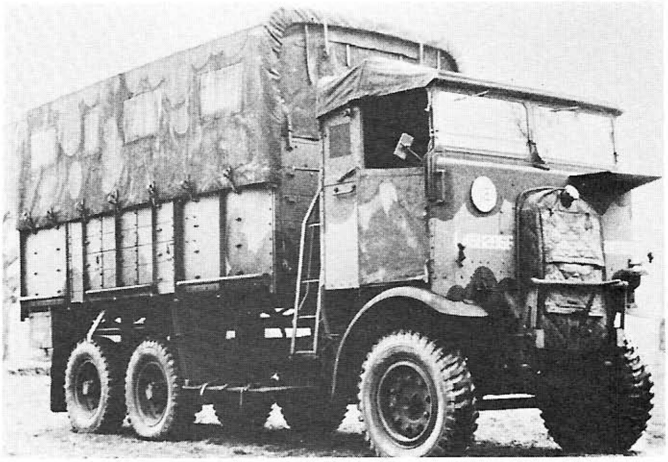


46

(Photo 45: Transport Equipment (Thornycroft) Ltd.).
(Photo 46 & 47: Imperial War Museum H 6708 & H 25833).

47



Some of the MACHINERY TRUCKS 3-ton 6 x 6 CANADIAN MANUFACTURE (160in wheelbase) Mounted on Canadian Military Pattern Chevrolet C60X chassis:–

Description: Machinery A. Type: House. Length: 20ft 4in. Width: 7ft 5in. Height: 10ft 5in.
A 7½ volt 1 kw generator, a lathe with 17in swing and 54in between centres, three drills, bench grinder, battery conditioner and capacity tester.
(Photo: 49).

Description: Machinery C.
Type: House.
Length: 20ft 4in.
Width: 7ft 5in.
Height: 10ft 6in.
One 3 kw 110 volt DC Outboard Marine or Leyland generator, V belt driven by a Briggs and Stratton engine. A Leyland lathe with 17in swing and 30in centres A 3-speed Wells Metal Cutting Bandsaw, portable drills and grinding equipment.

Description: Machinery D.
Type: House.
Length: 20ft 4in.
Width: 7ft 5in.
Height: 10ft 6in.
A 3 kw 110 volt DC Switchboard, a South Bend 8187–A tool room lathe, bench drill, portable heavy duty electric drills and a bench tool grinder. A Peerless 4in Watchmaker's lathe.

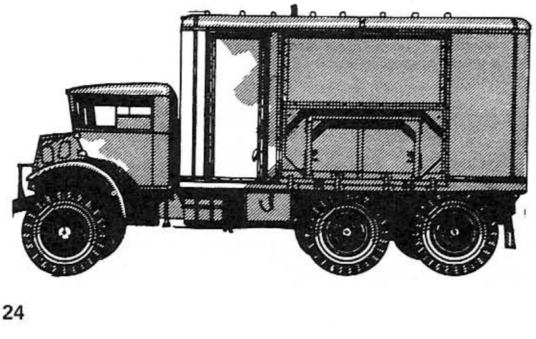
Description Machinery F.
Type: House.
Length: 20ft 4in.
Width: 7ft 5in.
Height: 10ft 5in.
An Outboard Marine 7½ kw Generator driven by a Willys MB 4-cyl engine, control panel, an Allen E-535 Universal Electric Servicer, a Trucut Model 'B' commutor lathe, Allen E-36 Magnetizer.

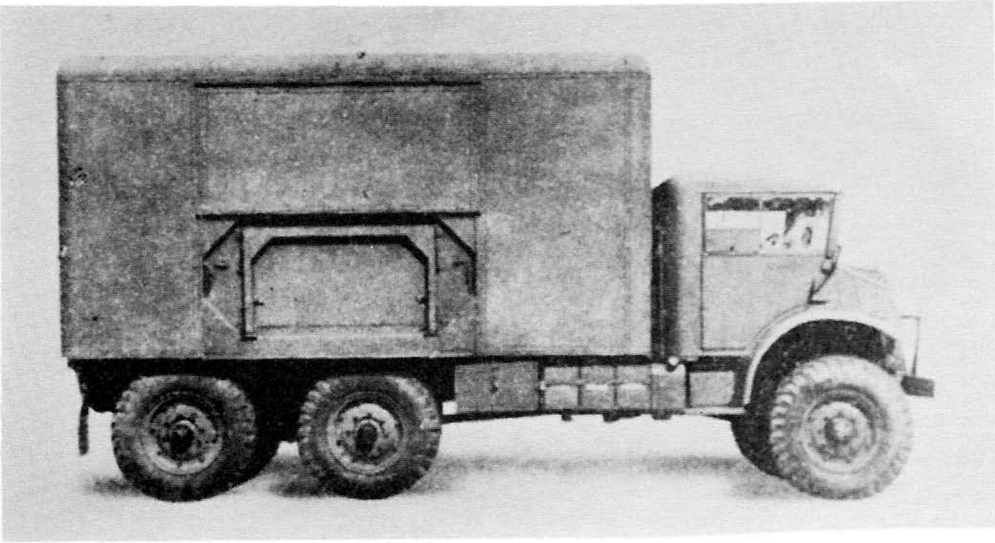
Description: Machinery Z.
Type: House.
Length: 20ft 4in.
Width: 7ft 5in.
Height: 10ft 6in.
A slenium Cell Battery Charger, 1 2000 watt AC generator, an Amalgamated Electric 110/220 volt AC panel, test panels.

Description: Machinery CZ.
Type: House.
Length: 20ft 4in.
Width: 7ft 5in.
Height: 10ft 6in.
A 3 kw 120 volt AC generator driven by a Briggs & Stratton ZZ motor, a switchboard, portable drills, bench grinders.

Description: Machinery RE 7½.
Type: House.
Length: 20ft 4in.
Width: 7ft 5in.
Height: 10ft 5in.
A 7½ kw 115 volt DC generator driven by a Willys MB engine, a South Bend 117D lathe with 16in swing and 45in centres, a Wells Metal Cutting Bandsaw, bench grinder, portable drill.

49





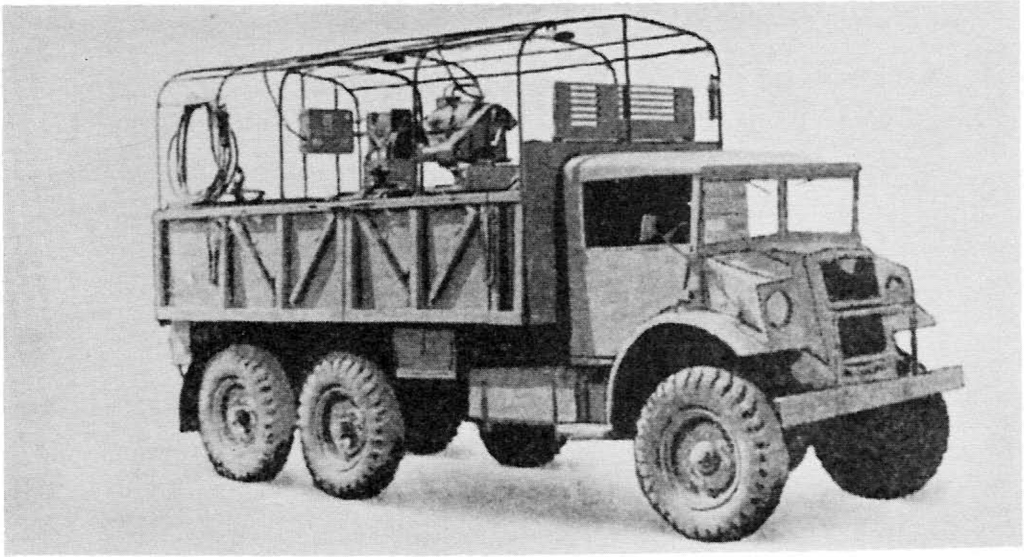
50

Description: Machinery B.
Type: House.
Length: 20ft 4in.
Width: 7ft 5in.
Height: 10ft 5in.
110 volt DC 2 kw switchboard, a Van Norman Universal Milling Machine driven by 3 hp Leyland 110 volt DC Motor, A Buffalo pedestal type drilling machine, and bench grinder.
(Photo: 50).

Description: Machinery L.
Type: GS.
Length: 20ft 5in.
Width: 7ft 5in.
Height: 10ft 4in.
A universal type woodworker with all accessories, workbench, saw-setter, vices and hand tools. Power supply from power trailer.
(Photo: 51).

House types later replaced by 3-ton 4 x 4 158in version.

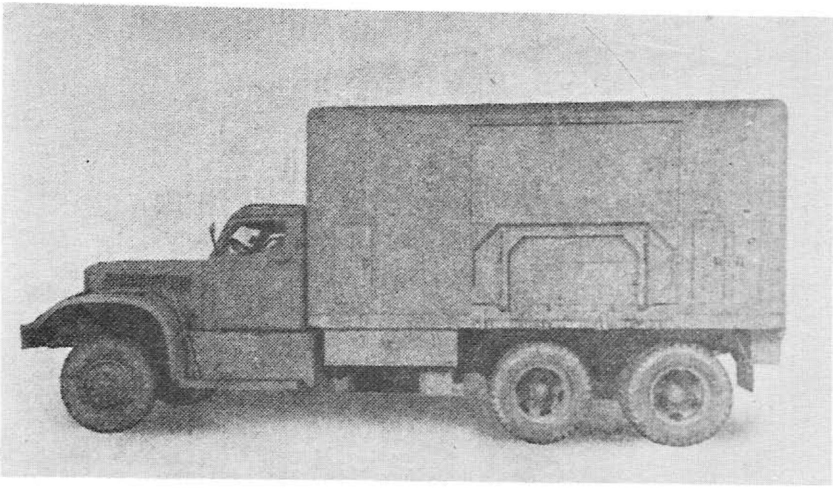
51

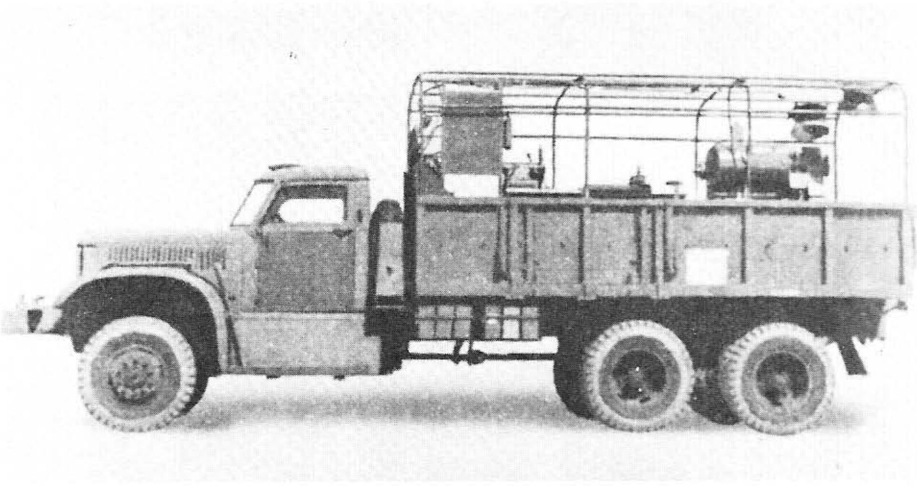


Mounted on the Diamond 'T' Model 969–B Chassis:–
Some of the MACHINERY TRUCKS 4-ton 6 x 6 CANADIAN MANUFACTURE (201in wheelbase).
Description: Machinery M.
Type: House.
Length: 26ft 10in.*
Width: 8ft 4in.
Height: 10ft 11in.
Bench lathe, paint sprayer, valve grinder and refacer, pinhole grinder, bench grinder and brake re-liner, battery charger with petrol engine.
Description: Machinery H.
Type: GS.
Length: 26ft 10in.
Width: 8ft 4in.
Height: 10ft 10in.
Heavy duty gap bed hollow spindle lathe, bench grinder, vices and hand tools. Power from generator trailer.
Description: RE25KW.
Type: GS.
Length: 26ft 11in.
Width: 8ft 2in.
Height: 9ft 10in.
Monorail and chain block, lathe, drill, grinder, and circular saw.

*Later replaced in service by the 3-ton 4 x 4 158in wb.

52





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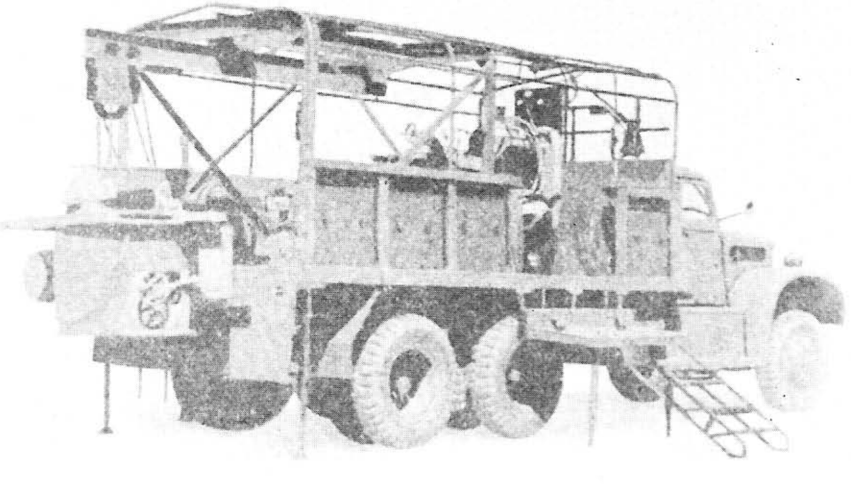
54



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